An Investigation of the Psychopathy Construct and its (Novel) Correlates in Non-Clinical Samples

by

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ABSTRACT

A substantial research literature exists regarding the psychopathy construct in forensic populations, but more recently, the construct has been extended to non-clinical populations. The purpose of the present dissertation was to investigate the content and the correlates of the psychopathy construct, with a particular focus on addressing gaps and controversies in the literature. In Study 1, the role of low anxiety in psychopathy was investigated, as some authors have proposed that low anxiety is integral to the psychopathy construct. Participants (n = 346) responded to two self-report psychopathy scales, the SRP-III and the PPI-R, as well as measures of temperament, personality, and antisociality. Of particular interest was the PPI-R Stress Immunity subscale, which represents low anxiety content. It was found that Stress Immunity was not correlated with SRP-III psychopathy, nor did it share common personality or temperament correlates or contribute to the prediction of antisociality. From Study 1, it was concluded that it was unlikely that low anxiety is a central feature of the psychopathy construct. In Study 2, the relationship between SRP-III psychopathy and Ability Emotional Intelligence (i.e., Emotional Intelligence measured as an ability, rather than as a self-report personality trait-like characteristic) was investigated, to determine whether psychopathy is best seen as a syndrome characterized by emotional deficits or by the ability to skillfully manipulate and prey upon the others' emotions. A negative correlation between the two constructs was found, suggesting that psychopathy is best characterized by deficits in perceiving, facilitating, managing, and understanding emotions. In Study 3, sex differences in the sexual behavior (i.e., promiscuity, age of first sexual behaviors, extradyadic sexual relations) and appearance-related esteem (i.e., body shame,

appearance anxiety, self-esteem) correlates of SRP-III psychopathy were investigated. The sexual behavior correlates of psychopathy were quite similar for men and women, but the esteem correlates were very different, such that high psychopathy in men was related to high esteem, whereas high psychopathy in women was generally related to low esteem. This sex difference was difficult to interpret in that it was not mediated by sexual behavior, suggesting that further exploration of this topic is warranted. Together, these three studies contribute to our understanding of non-clinical psychopathy, indicating that low anxiety is likely not part of the construct, that psychopathy is related to low levels of ability in Emotional Intelligence, and that psychopathy is an important predictor of behavior, ability, and beliefs and feelings about the self.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPENDICES

CHAPTER 1: GENERAL INTRODUCTION

Overview

Research has suggested that psychopathy, a construct characterized by shallow affect, interpersonal manipulation, an erratic and parasitic lifestyle, and antisocial behavior, can be a useful predictor of behavioral outcomes, particularly violent recidivism, in forensic populations (see Hemphill, Hare, & Wong, 1998; Leistico, Salekin, DeCoster, & Rogers, 2008; Salekin, Rogers, & Sewell, 1996 for reviews). Whereas there is a substantial literature around differentiating the behavioral and personality correlates of psychopathic offenders from non-psychopathic offenders (e.g., Newman & Schmitt, 1998; Rice, Harris, & Cormier, 1992; Smith & Newman, 1990), a similar literature is now developing around self-report psychopathic traits in non-clinical populations (e.g., Benning, Patrick, Blonigen, Hicks, & Iacono, 2005; Lee & Ashton, 2005; Levenson, Kiehl, & Fitzpatrick, 1995).

There is little evidence to suggest that psychopathy is a categorical construct and much to suggest that it is dimensional in nature (e.g., Edens, Marcus, Lilienfeld, & Poythress, 2006; Guay, Ruscio, Knight, & Hare, 2007; Miller, Lynam, Widiger, & Leukefeld, 2001; but see Harris, Rice, & Quinsey, 1994). If psychopathy is, indeed, a continuous individual difference variable, the exploration of its correlates in non-clinical samples is useful not only in that findings might be transferrable to clinical samples, but also in providing further clarification as to the nature and relevance of the psychopathy construct in general. This dissertation will address three research questions that are central to our understanding of the psychopathy construct: Is low-anxiety part of the psychopathy construct? How does Emotional Intelligence relate to psychopathy? Are

there sex differences in how psychopathy relates to sexual behavior and appearance-based esteem?

Low Anxiety and Psychopathy. There has been disagreement in the literature as to which aspects of psychopathy are integral to the construct. In particular, some researchers (e.g., Cleckley, 1941/1988; Karpman, 1941; Lykken, 1996) have maintained that low anxiety or what Lykken called "low fearfulness" is central to the development of some psychopaths. Other authors, such as Hare (2003), have found low anxiety to be uncorrelated with other features of psychopathy and have concluded that low anxiety is neither theoretically nor psychometrically central to the psychopathy construct. This theoretical discrepancy is reflected in the fact that two popular self-report instruments used in the measurement of non-clinical psychopathy differ in their content: one instrument, the Psychopathic Personality Inventory-Revised (PPI-R; Lilienfeld & Widows, 2005) includes a low-anxiety subscale, whereas the Self Report Psychopathy-III (SRP-III; Paulhus, Neumann, & Hare, in press) has no such content. In this dissertation, I will investigate whether low anxiety is a central feature of the psychopathy construct.

Emotional Intelligence and Psychopathy. Another issue, central to the psychopathy construct and yet never empirically investigated, regarding its relationship to Emotional Intelligence, measured as an ability (Ability EI) rather than as a trait-like variable (Trait EI). There is a media stereotype of the psychopath as coolly and skillfully manipulating others, which might suggest that psychopathy is related to high levels of EI. On the other hand, there is a literature indicating that psychopathy is associated with deficits related to the recognition of emotions in others (Dolan & Fullman, 2006; Hastings, Tangney, & Stuewig, 2008; Montagne et al., 2005; but see Book, Quinsey, &

Langford, 2007; Glass & Newman, 2006), which would seem to contradict the notion that psychopaths are highly skilled in the detection and manipulation of their victims' emotions. Cleckley (1941/1988) stated that psychopaths had "good intelligence" yet conversely, failed to benefit from experience. Measures of Ability EI tend to be positively correlated with measured intelligence (Schulte, Ree & Carretta, 2004), yet they tap into abilities that are specific to emotions, and might help to explain psychopaths' deficits in socialization. The construct of Emotional Intelligence would seem highly relevant to psychopathy, and yet there has been no research exploring the relationship between the two constructs. In this dissertation, I will investigate the relationship between Ability EI and psychopathy in an undergraduate sample.

Sexual Behavior and Esteem Correlates of Psychopathy. Another novel area of exploration in this dissertation involves sex differences in the correlates of psychopathy. It has been well established in the literature that women have, on average, lower levels of psychopathy than do men (Levenson et al., 1995; Lilienfeld & Andrews, 1996; Paulhus & Williams, 2002) and also that a lower percentage of women than men meet the criteria for a diagnosis of psychopathy (Salekin, Rogers, & Sewell, 1997; Vitale & Newman, 2001). There is evidence that some psychopathy features may load onto different factors (or not load at all) for women than for men (Dolan & Völlm, 2009), suggesting that there may be sex differences in the psychopathy construct and/or in its correlates. Sexual behavior is central to the psychopathy construct, with promiscuity a core feature of many conceptualizations (e.g., Hare, 2003). However, it seems plausible that there may be sex differences in the sexual behavior correlates of psychopathy and also in the self-esteem correlates of psychopathy, particularly self-esteem regarding body image and

attractiveness. This dissertation will investigate whether there are psychopathy-related sex differences in how men and women feel about themselves and their bodies.

Structure of Dissertation. This dissertation will explore these important issues around psychopathy in three research investigations. In Chapter 1, I review the history of the psychopathy construct, its dimensional nature, its structure, and its measurement in non-clinical samples. In Chapter 2, I report Study One, in which two psychopathy instruments, the SRP-III and the PPI-R), were administered to 346 undergraduate students. The latter instrument includes low-anxiety content (the Stress Immunity subscale), whereas the former does not. In examining the question of whether low anxiety should be considered an aspect of the psychopathy construct, I will report the extent to which the low-anxiety content corresponds to other psychopathy subscales, loads onto a latent psychopathy factor, relates to personality and temperament, and predicts antisocial behavior. In Chapter 3, I report Study Two, in which the SRP-III and a measure of Ability EI were administered to 429 undergraduate students. The relationship between psychopathy and Ability EI is reported as well as the extent to which each predicts antisocial behavior. In Chapter 4, I report Study Three, in which 198 undergraduate students completed the SRP-III as well as measures of sexual behavior, attractiveness, and various aspects of appearance-related esteem. The relations between these variables are reported, with an emphasis on psychopathy-related sex differences. In Chapter 5, I summarize the main findings of the three studies and discuss the relevance of the results in relation to the non-clinical psychopathy construct.

History of Psychopathy Construct

The introduction of the term "psychopathy" has been credited to Koch (1888, as cited in Hervé, 2007), who used the term to describe personality disorders in general. However, the attempt to label individuals who committed irresponsible and antisocial acts—despite having apparently normal reasoning and intellectual abilities—goes back further. In the early 19th century, Rush (1812) described three cases of "moral depravity" (p. 112) he had seen in his practice and Pinel (1806) identified "mania without delirium" and described three cases of the phenomenon, including that of an individual Pinel described as having "a mind naturally perverse and unruly" (p. 151). Pritchard (1835) criticized Pinel's examples as all having fits of anger or rage as their primary symptom. Pritchard suggested that what he called "moral insanity" was a much broader construct than Pinel's, describing this diagnosis as "morbid perversion of the natural feelings, affections, inclinations, temper, habits, moral dispositions, and natural impulses".

Descriptions of psychopathy as a specific disorder resembling that recognized by modern clinicians and researchers came from Partridge (1930), Karpman (1941) and Cleckley (1941/1988), all of whom described the callous, impulsive, and emotionally shallow characteristics of psychopaths. Both Partridge and Karpman described psychopathy as a condition that could be either biological or environmental in its etiology.

In his seminal monograph, *The Mask of Sanity*, Cleckley (1941/1988) discussed psychopathy largely in terms of personality characteristics. Cleckley believed that much of the confusion around the psychopathy construct was the result of applying the label too liberally to individuals who exhibited only the antisocial features but not the personality

features of the disorder. Based on his extensive clinical experience, Cleckley identified 16 core features of psychopathy: superficial charm (and good intelligence), absence of delusions and other signs of irrational thinking, absence of nervousness, unreliability, untruthfulness and insincerity, lack of remorse or shame, inadequately motivated antisocial behavior, poor judgment/failure to learn by experience, pathologic egocentricity and incapacity for love, poverty in major affective reactions, lack of insight, interpersonal unresponsiveness, suicide rarely carried out, impersonal sex life, failure to follow any life plan, and what Cleckley called "fantastic and uninviting behavior with drink and sometimes without" (p. 371). The latter criterion referred to Cleckley's observation that it took seemingly little alcohol to catalyze vulgar and/or outlandish behavior in the psychopath.

Many of Cleckley's defining characteristics remain central to descriptions of psychopathy today (e.g., Hare, 2003; Lilienfeld & Andrews, 1996): superficial charm, unreliability, untruthfulness and insincerity, lack of remorse or shame, inadequately motivated antisocial behavior, failure to learn from experience, pathologic egocentricity, poverty in major affective reactions, lack of insight, interpersonal unresponsiveness, impersonal sex life, and failure to follow any life plan. A few of Cleckley's defining characteristics have generally been dropped as modern diagnostic criteria: good intelligence; absence of delusions and other signs of irrational thinking; and suicide rarely carried out. "Lack of nervousness", on the other hand, is a matter of some controversy today, almost seven decades after Cleckley identified it as a defining feature of the disorder (see Chapter 2 for a discussion of low anxiety and psychopathy).

Terminology: Psychopathy and Related Disorders

The terms "psychopathy" and "sociopathy" have been the subject of some confusion. As previously indicated, psychopathy has been used to refer to personality pathology in general and to antisocial behavior in general, as well as to describe the pattern of personality and behavioral characteristics we now recognize as psychopathy. Partridge (1930) suggested that the term *psychopath* should be replaced with *sociopath*, to better reflect his belief that the condition could result from environmental factors. In order to address this confusion in nomenclature, the first edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM; American Psychiatric Association [APA], 1952) used the term "Sociopathic Personality Disturbance" to refer to a disorder that generally described Cleckley's psychopathy. In the third edition of *The Mask of Sanity* (1955), Cleckley acknowledged that "sociopath" was now used clinically to refer to what he had called the "psychopath" and he stated that he would use the two terms interchangeably.

Lykken (1995), on the other hand, differentiated between the terms, using psychopath to refer to individuals whose antisocial behavior resulted from biological factors and sociopath to refer to individuals whose antisocial behavior was the result of chaotic or inadequate parenting. Lykken (2006) did not go so far as to claim that sociopathic behavior was entirely a result of incompetent parenting, however. He noted that "…sociopaths are likely not only to have been untrained, neglected, or abused but also to have inherited some of the same temperamental problems that kept their parents locked in the grim confines of the underclass" (p. 4). Lykken's distinction between psychopaths and sociopaths is generally accepted. Babiak and Hare (2006) claimed that

sociopaths, unlike psychopaths, may possess quite normal levels of empathy, conscience, guilt, and loyalty, but that the group norms to which they adhere can be described as criminal or antisocial. Rather than exhibiting the extremely low empathy that is characteristic of psychopathic individuals, sociopaths, according to Babiak and Hare, would likely feel empathy and loyalty to their own group members (p. 19).

Neither psychopathy nor sociopathy has been included in any of the DSM revisions. DSM-II (APA, 1968) replaced Sociopathic Personality Disturbance with "Personality Disorder, Antisocial Reaction" and all subsequent editions up to the current DSM-IV-TR (APA, 2000) have included Antisocial Personality Disorder (APD). DSM-IV-TR classifies APD as a cluster B personality disorder, characterized by unlawful behavior, irritability and aggressiveness, deceitfulness, impulsivity, lack of remorse, and irresponsibility, and a chronic disregard for others' rights. APD is, by definition, preceded by evidence of conduct disorder prior to the age of 15 years.

Lykken (2006) claimed that APD was a heterogeneous, "scientifically unhelpful" (p. 4) description of antisocial behavior. Hervé (2007) noted that APD places the emphasis on antisocial and criminal behavior while recognizing some related personality attributes, whereas psychopathy places equal or greater emphasis on interpersonal and affective characteristics. Hare (2003) noted that APD was a much broader diagnostic category than that of psychopathy, claiming that in forensic settings, most psychopathic offenders (over 80%, according to Hart & Hare, 1996) would meet the criteria for APD, whereas most offenders with APD would not meet the criteria for psychopathy. Hervé (2007) stated that the literature suggested that, in forensic settings, the psychopathy base rate was 15% to 25% but the APD base rate was 50% to 80%. Babiak and Hare (2006)

estimated that there are probably fewer individuals with APD than there are sociopaths in the population, and still fewer psychopaths.

Structure of Psychopathy

Recent research has turned to an exploration of the psychopathy construct (e.g. Cooke & Michie, 2001; Harpur, Hakstian, & Hare, 1988; Harpur, Hare, & Hakstian, 1989), typically in relation to the factor structure of the Psychopathy Checklist (PCL; Hare, 1980) and its revision (PCL-R; Hare, 1991, 2003), an instrument considered to be the gold standard in the measurement of psychopathy in forensic populations. Such is the regard for the PCL-R that Skeem and Cooke (2010) have cautioned researchers against the assumption that the PCL-R is equivalent to the psychopathy construct. The PCL-R measures psychopathy generally in keeping with Cleckley's conceptualization, but with greater inclusion of criminal behavior. The label of "psychopath", according to Hare (2003), should be reserved for those individuals with scores of 30 or greater on this 20-item instrument (individuals are scored from 0 to 2 on each item).

Two-Factor Model. Much research has been based on the existence of two correlated PCL-R factors (e.g., Harpur et al. 1988). Factor 1 includes eight items (glibness/superficial charm; grandiose sense of self worth; pathological lying; conning/manipulative; lack of remorse or guilt; shallow affect; callous/lack of empathy; failure to accept responsibility for own actions) generally relating to the interpersonal and affective aspects of psychopathy. Factor 2 includes nine items (need for stimulation/proneness to boredom; parasitic lifestyle; poor behavioral controls; early behavioral problems; lack of realistic, long-term goals; impulsivity; irresponsibility; juvenile delinquency; revocation of conditional release), which generally relate to the

social deviance aspects of psychopathy. Three of the PCL-R items (sexual promiscuity, many short-term marital relationships, and criminal versatility) do not load substantially onto either factor.

Research has repeatedly shown that although the two broad PCL-R factors are correlated at about .50 (Hare, 2003), they have somewhat different correlates. For example, Woodworth and Porter (2002) found that PCL-R Factor 1 but not Factor 2 was related to a greater level of instrumentality in offences committed by psychopathic offenders than in those committed by non-psychopathic offenders. Harpur et al. (1989) reported that PCL Factor 2 but not Factor 1 was related to social class, family background, and education. Factor 2 has been positively correlated with APD symptoms (Harpur et al., 1989; Patrick, Zempolich, & Levenston, 1997) to a greater extent than has Factor 1, and Hare (2003) reported that Factor 2 psychopathy showed consistent negative correlations with education. In addition, the association between substance use disorders and psychopathy seems to be much stronger for Factor 2 than for Factor 1, and also stronger for illicit drug use than for alcohol use (see Taylor & Lang, 2006), leading Taylor and Lang to conclude that both Factor 2 and substance use are related to social deviance and might share a genetic vulnerability to externalizing behavior – that is, to acting out, aggression, and what the authors describe as "general lack of behavioral control" (p. 495).

Three-Factor Model. Recent research has re-examined the two-factor conceptualization of psychopathy. Cooke and Michie (2001) have suggested that data support their three-factor model rather than the traditional two-factor model. The three correlated factors identified by the authors include an arrogant and deceitful interpersonal

style, a deficient affective experience, and an impulsive and irresponsible behavioral style. Cooke and Michie described these three factors as loading onto a superordinate psychopathy factor. Cooke and Michie noted that this model does not encompass seven of the 20 PCL-R items (the previously mentioned three items that did not load in the two factor solution, as well as poor behavioral controls; early behavioral problems; juvenile delinquency; revocation of conditional release; and criminal versatility). Cooke, Michie, and Skeem (2007) suggested that the seven PCL-R items that are not a part of their three-factor solution represent antisocial behavior that can be an outcome of psychopathy but is not a central part of the psychopathy construct.

Four-Factor Model. Hare's (2003) four-factor solution, on the other hand, represents a refinement of the original two PCL-R factors, in that each original factor is seen as comprising two distinct facets. Thus, Factor 1 comprises four-item Interpersonal Manipulation (glibness/superficial charm; grandiose sense of self worth; pathological lying; conning/manipulative) and Callous Affect (lack of remorse or guilt; shallow affect; callous/lack of empathy; failure to accept responsibility for own actions) facets and Factor 2 consists of two five-item facets reflecting Erratic Lifestyle (need for stimulation/proneness to boredom; parasitic lifestyle; lack of realistic, long-term goals; impulsivity, irresponsibility) and Antisocial Behavior (e.g., poor behavioral controls; early behavioral problems; juvenile delinquency; revocation of conditional release; criminal versatility). Hare (2003) noted that the first three facets replicate those of Cooke and Michie (2001), whereas the fourth facet encompasses five of Cooke and Michie's seven excluded items: poor behavioral controls, early behavioral problems, juvenile delinquency, revocation of conditional release, and criminal versatility. Farrington (2005)

noted that this fourth, antisocial facet undoubtedly increases the ability of the PCL-R to predict violent recidivism, but argued that it confounds attempts to explore psychopathy as a cause of antisocial behavior. Skeem and Cook (2010) have similarly criticized the PCL-R for its inclusion of criminal manifestations of psychopathy, and for its exclusion of successful manifestations of psychopathy (e.g., business acumen). In response, Hare and Neumann (2010) argued that antisociality rather than criminality is a central feature of psychopathy.

Measuring Psychopathy in Non-Forensic Samples

There is good evidence that the psychopathy construct is dimensional, which suggests that research in non-clinical samples is appropriate; however, the measurement of psychopathy in such samples is still being refined. Although the PCL-R has received consistently positive reviews for its use in forensic samples, it is less appropriate for non-clinical samples. The PCL-R relies on a lengthy interview and access to file data relating to criminal history, limiting its suitability for community samples. In addition, items relating to revocation of conditional release and juvenile delinquency are unlikely to be endorsed in non-forensic samples.

Three promising instruments for the measurement of psychopathy in community samples are Levenson's Primary and Secondary Psychopathy Scales (LPSP; Levenson et al., 1995), the Psychopathic Personality Inventory-Revised (PPI-R; Lilienfeld & Widows, 2005) and the Self-Report Psychopathy III (SRP-III; Paulhus, Neumann, & Hare, in press). All three self-report instruments are widely used in investigations of non-clinical psychopathy, but they have rather different theoretical underpinnings (see Chapter 2 for a discussion of the development of both instruments). The LPSP was developed to assess

PCL Factors 1 (primary) and 2 (secondary) psychopathy in non-forensic populations. Research has demonstrated that both the primary and secondary scales predict antisocial behavior (Levenson et al., 1995; Lynam, Whiteside, & Jones, 1999; McHoskey, Worzel, & Szyarto, 1998). Brinkley, Schmitt, Smith, and Newman (2001) reported moderate but significant correlations between corresponding factors when the PCL-R and LPSP were administered to African American and Caucasian prisoners; PCL-R Factor 1 correlated .30 and .31 with primary psychopathy in the two samples, and PCL-R Factor 2 correlated .45 and .26 with secondary psychopathy.

The PPI (Lilienfeld & Andrews, 1996) was developed with a strong theoretical orientation that the instrument should measure the prototypical personality features of psychopathy, generally in keeping with Cleckley's description, and not the antisocial behavior features that characterize PCL-R Factor 2. In addition, the authors sought to measure the psychopathic low anxiety described by Cleckley but absent from the PCL-R. After three rounds of item writing and factor analysis, the authors reported that the final version of the instrument yielded eight factors: Machiavellian Egocentricity; Social Potency; Coldheartedness; Carefree Nonplanfulness; Fearlessness; Blame Externalization; Impulsive Nonconformity; and Stress Immunity. In the validation studies with undergraduate students, the PPI possessed satisfactory reliability and validity. Although not intended for forensic populations, total PPI scores were positively and significantly correlated with PCL-R factor scores (*r*s = .54 and .40 for Factors 1 and 2 respectively) in a sample of 50 young incarcerated men (Poythress, Edens, & Lilienfeld, 1998). However, four of the eight subscales were not significantly correlated with either of the PCL-R factors or the total score, with Fearlessness and Stress Immunity showing

particularly low correlations with the PCL-R, leading Poythress et al. to question whether the content of these subscales is part of the psychopathy construct.

Factor analysis has indicated that the subscales yield two orthogonal factors (Benning, Patrick, Hicks, Blonigen & Krueger, 2003; Benning, Patrick, Blonigen, Hicks, & Iacono, 2005). However, the Coldheartedness subscale, which Lilienfeld and Andrews (1996) described as measuring callousness, lack of remorse, and lack of sentimentality, did not load on either factor. Poythress et al. (2010) have described these two factors as being "roughly analogous" (p. 207) to PCL-R Factors 1 and 2, but this suggestion would seem to be inconsistent with Lilienfeld and Andrew's' assertion that the PPI would not include items reflecting antisocial behavior. In fact, Lilienfeld and Andrews suggested that the PPI was a complementary measure to the two-factor structure of the PCL-R in "underscoring the distinction between psychopathy and ASPD" (p. 519), seemingly suggesting that the entire PPI as well as PCL-R Factor 1 are measuring psychopathy and that PCL-R Factor 2 is measuring Antisocial Personality Disorder.

The Self-Report Psychopathy Scale (SRP; Hare, 1985), as with the LPSP, was constructed to be a self-report version of the PCL. The current version of the scale, the SRP-III (Paulhus et al., in press) yields four factors that are analogous with the four PCL-R factors (Williams, Paulhus, & Hare, 2007). Lilienfeld and Andrews (1996) reported a .91 correlation between total PPI and SRP-II (Hare, Harpur, & Hemphill, 1989) scores. Williams et al. (2007) reported a correlation of .60 between the PPI and an experimental version of the SRP-II, revised to better correspond to the PCL-R. The SRP-III has been shown to have good reliability and validity (Williams et al., 2007).

Categorical versus Continuous Nature of Psychopathy

An issue related to the structure of psychopathy is whether the construct is best considered to be categorical or continuous. Harris, Skilling, and Rice (2001) maintained that psychopaths are qualitatively different from non-psychopaths, and that the existence of psychopaths reflects a reproductive strategy maintained at low base-rate by frequency-dependent selection. This group of authors has conducted taxometric analyses to determine whether psychopaths might represent a discrete class and found some evidence of an underlying taxon of psychopathy in male offenders (Harris et al., 1994) and a taxon of serious antisociality in a community sample of 1,111 school-aged boys (Skilling, Quinsey, & Craig, 2001). It is noteworthy that Harris et al. (1994) reported that a PCL-R cut score of 19 or 20, rather than the traditional diagnostic cut-off of 30, was ideal for identification of the taxon. The authors reported evidence of the taxon only for Factor 2, suggesting that any underlying taxon is related to the antisocial lifestyle aspects of psychopathy, and not to the core personality characteristics represented by Factor 1. This finding seems to suggest that secondary psychopathy and/or sociopathy and/or APD might be categorical in nature, whereas primary psychopathy is continuous.

Edens et al. (2006) examined evidence for a taxon using the PCL-R four-factor model in a sample of incarcerated offenders and court-ordered substance abuse rehabilitation patients. Even when the authors used the same procedures and the same items as Harris et al. (1994), they found no evidence of an underlying taxon in any of the factors (that is, taxometric analyses of PCL-R scores showed results resembling those of simulated dimensional data but not simulated taxonic data), and concluded that there was no basis for psychopathy as a discrete, qualitatively distinct category. Likewise, Guay et

al. (2007) applied updated methods to the taxometric analysis of the PCL-R scores of 4,865 offenders, and concluded that the PCL-R and its components are dimensional in nature.

Evidence that psychopathy is dimensional has led to attempts to map the psychopathy construct onto the Big Five or Five-Factor Model (FFM; McCrae & Costa, 1990) of personality, which contains dimensions known as Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience. In one such investigation, Widiger and Lynam (1998) determined that PCL-R Factor 1 was predominantly characterized by low Agreeableness whereas Factor 2 represented a combination of low Conscientiousness and low Agreeableness. Based on Widiger and Lynam's translation of items into FFM facets, Miller et al. (2001) examined the relation of psychopathy to the FFM in a community sample of 481 male and female 21- and 22-year-olds, who were part of an ongoing longitudinal study. The authors concluded that psychopathy, like other personality disorders, was best described in a dimensional fashion, and could be accounted for in terms of the FFM.

Some recent research has been based on the HEXACO model (Lee & Ashton, 2004) of personality structure, which involves a set of six dimensions: Honesty-Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness, and Openness to Experience. In the HEXACO framework, Extraversion, Conscientiousness, and Openness to Experience are almost identical to their FFM counterparts, whereas HEXACO Emotionality and Agreeableness represent somewhat rotated variants of the FFM Neuroticism and Agreeableness factors. HEXACO Honesty-Humility includes some variance associated with FFM Agreeableness but also contains content that is not

represented in the FFM. There is some evidence that the HEXACO framework could better account for psychopathic characteristics. For example, Lee and Ashton (2005) reported that the Honesty-Humility factor of the HEXACO Personality Inventory (HEXACO-PI; Lee & Ashton, 2004) was correlated -.72 with self-report primary psychopathy (affective and interpersonal aspects of psychopathy) on the LPSP, whereas Big Five Inventory (BFI; John, Donahue, & Kentle, 1991) Agreeableness correlated only -.39 with primary psychopathy. The HEXACO model has yet to be used in investigations of secondary psychopathy (the lifestyle and behavioral aspects of psychopathy).

Edens et al. (2006) noted that if psychopathy is a continuous variable, as the evidence would seem to indicate, then it is an appropriate research strategy to use student samples or other samples in which the base rate of high scorers would be quite low. Benning et al. (2005) noted that identification of the underlying personality variables relevant to psychopathy would imply that large-scale epidemiological studies which make use of personality inventories could provide relevant information about psychopathy and its correlates.

Antisocial Behavior

The outcomes of psychopathy in forensic populations (e.g., violent recidivism, parole violations) are fairly well established. Furthermore, studies of psychopathy in non-forensic samples have shown that the construct, even at subclinical levels, is related to antisocial behavior. Levenson et al. (1995), for example, found that although undergraduate students' self-reports indicated low levels of psychopathy, there was sufficient variation for expected correlations with criterion variables to emerge. As measured by the Levenson Primary and Secondary Psychopathy scales (LPSP; Levenson

et al., 1995), both primary psychopathy and secondary psychopathy were substantially correlated with self-report antisocial behavior (*r*s = .44 and .29 respectively). This latter measure consisted of numerous antisocial behaviors (e.g., plagiarism, cheating) and reverse-keyed prosocial behaviors (e.g., lending lecture notes, returning borrowed items) in which undergraduate students would be likely to engage. Levenson et al. also reported that secondary psychopathy was also associated with (low) GPA (r = -.23).

Cooperative and competitive behaviors among university students have also been shown to be related to psychopathy. Ross and Rausch (2001) reported that in a predominantly white and female undergraduate student sample, primary psychopathy (as measured by the LPSP) was correlated .40 with high self-reported hypercompetition, described as "an individualistic need to compete, including an appetite for winning and sensitivity to failure" (p. 474) and low cooperation (r = -.30). Secondary psychopathy (also measured by the LPSP) was positively correlated with self-handicapping and negatively correlated with goal-setting and personal development competition. Nathanson, Paulhus, and Williams (2006) reported that SRP-III psychopathy was the best single predictor of scholastic cheating, when pitted against personality, demographic characteristics, ability, and prior scholastic knowledge, and Williams, Nathanson, and Paulhus (2010) reported that SRP-III psychopathy significantly predicted computer-detected plagiarism over and above Machiavellianism, narcissism, and personality.

Goals for this Dissertation

In summary, the history of the psychopathy construct is fraught with confusion in regard to its defining features and its nomenclature. However, there is good evidence that psychopathy is a dimensional construct that can be applied to non-clinical samples. There

is a rapidly growing literature on the nature, correlates, and measurement of non-clinical psychopathy. In this dissertation, three studies are reported, in which several gaps in the psychopathy literature are addressed, namely: Is low anxiety central to the psychopathy construct? How is Emotional Intelligence related to psychopathy? And, are there sex differences in the sexuality and esteem correlates of psychopathy? See Table 1 for a summary of the studies, variables, and research questions.

In Study 1, the role of low anxiety in the psychopathy construct was investigated. Specifically, relations of the PPI-R Stress Immunity (low-anxiety) subscale to measures of temperament, personality, antisociality and SRP-III psychopathy were explored. In Study 2, the relations between psychopathy, Ability Emotional Intelligence (measured as the abilities to perceive, facilitate, understand, and manage emotions), and self-report antisociality were investigated. In Study 3, the relations between psychopathy, appearance-based esteem, and sexual behavior were investigated, with particular attention to sex differences. Throughout this dissertation, psychopathy was measured with the SRP-III. The PPI-R was also included in Study 1 for the purposes of comparing the content and psychometric properties of the two instruments, and to evaluate the merits of the PPI-R Stress Immunity (low anxiety) subscale.

Table 1.1

Summary of Studies

Study	Measures	Research Questions
1	PPI-R Psychopathy SRP-III Psychopathy Temperament Personality Antisociality	Is low anxiety (PPI Stress Immunity) integral to the psychopathy construct?
2	SRP-III Psychopathy Emotional Intelligence Antisociality	How is psychopathy related to Emotional Intelligence (the ability to understand and manage the emotions of self and others)?
3	SRP-III Psychopathy Appearance-related esteem Sexual Behavior	How does psychopathy relate to appearance-based esteem and sexual behavior? Are there sex differences in these relations?

CHAPTER 2 (STUDY 1): LOW ANXIETY AND PSYCHOPATHY

Note: This section is based on the following article, with permission: Visser, B.A., Ashton, M. C., & Pozzebon, J. A., (2010). Is low anxiety part of the psychopathy construct?

Abstract

Low anxiety has traditionally been considered a feature of the prototypical psychopath, but there has been mixed research support for this conceptualization. In the current study, we investigated the relationship of low anxiety to psychopathy in a sample of undergraduate students (n = 346). Participants completed two self-report measures of psychopathy, one which included low anxiety content (PPI-R) and one which did not (SRP-III). Results indicated that the PPI-R Stress Immunity subscale, a measure of low anxiety, was uncorrelated with a latent psychopathy factor defined by the SRP-III subscales, and also had widely varying correlations (including some negative correlations) with other PPI-R subscales. Stress Immunity had personality and temperament correlates that were inconsistent with those shown by other psychopathy subscales as well as those reported in the psychopathy literature. Finally, Stress Immunity had a slight negative correlation with self-reported student antisociality. These results were interpreted as evidence that low anxiety is likely not a core feature of the sub-clinical psychopathy construct.

Introduction

Psychopathy is a construct characterized by interpersonal deception and shallow affect, as well as an irresponsible and antisocial lifestyle. In forensic populations, psychopathy has been shown to be a good predictor of violent recidivism and parole violations (see Hemphill, Hare, & Wong, 1998, for a review). Furthermore, studies in non-forensic samples have shown that the psychopathy construct, even at non-clinical levels, is related to antisocial behavior (Levenson, Kiehl, & Fitzpatrick, 1995; Nathanson, Paulhus, & Williams, 2006; Visser, Bay, Cook, & Myburgh, 2010). In his seminal writings about psychopathy, Cleckley (1941/1988) identified "lack of nervousness" as a defining feature of psychopathy, and this conceptualization of the psychopath as cool manipulator persists in academia as well as in popular culture, despite the fact that some research has suggested that low anxiety may be unrelated to psychopathy (Paulhus & Williams, 2004; Schmitt & Newman, 1999).

Ever since researchers began to study psychopathy, they have proposed different forms or varieties of the disorder. Karpman (1941, 1948) proposed two phenotypically similar variants of psychopathy with different etiological origins. Primary or idiopathic psychopaths, in Karpman's typology, were true psychopaths, and their callous and antisocial behavior resulted from innate affective deficits. Secondary or symptomatic psychopathy, on the other hand, was attributable to high neuroticism and emotional reactivity, and was often caused by environmental factors. Karpman (1948) thought that secondary psychopaths were not truly psychopathic. Lykken's (1995) more recent low fear hypothesis of psychopathy suggested a similar etiological distinction, with what Lykken (1995) referred to as "fearlessness" as causal in primary but not in secondary

psychopathy. He suggested that children who begin life with very low harm avoidance are relatively difficult to socialize through punishment and, in the absence of extraordinary parenting, risk becoming criminals as adults. Lykken (1995) used the term "secondary psychopath" to describe individuals whose antisocial behavior was related to negative affect or chronically high levels of anxiety, and "sociopath" to describe individuals whose antisocial behavior emerged from inadequate socialization. In keeping with this distinction, many researchers have distinguished primary and secondary psychopathy entirely on the basis of low versus high anxiety scores (e.g., Newman, Kosson, & Patterson, 1992; Newman, MacCoon, Vaughn, & Sadeh, 2005; Widom, 1976). However, it is unclear whether this anxiety-based criterion reflects a core feature of psychopathy, or simply identifies high- and low-anxious subtypes.

Temperament Correlates of Psychopathy

Lykken (1995) was opposed to the use of low versus high anxiety to distinguish primary and secondary psychopathy, but he saw parallels between his low fear hypothesis and Gray's (1987) biological model of temperament. In Gray's model, the Behavioral Inhibition System (BIS) controls an individual's response to impending punishment or non-reward, and underlies anxiety and behavioral inhibition. The Behavioral Activation System (BAS) controls an individual's response to potential rewards, and underlies impulsivity and reward-seeking behavior. Lykken suggested that primary psychopathy was characterized by a profile of a weak BIS and an average BAS, whereas secondary psychopathy was characterized by a profile of an average BIS and a strong BAS. Newman et al. (2005), however, found that these profiles generally emerged when psychopathic prisoners were categorized as primary or secondary psychopaths on the

basis of low (primary) and high (secondary) anxiety scores. Newman et al. interpreted these results as support for the use of low anxiety to distinguish primary psychopathy "from other antisocial syndromes" (p. 322), despite the fact that all participants met criteria for a diagnosis of psychopath.

Three investigations of the roles of BIS and BAS in psychopathy have shown that all aspects of psychopathy were related to high levels of BAS (Ross, Benning, Patrick, Thompson, & Thurston, 2009; Ross et al., 2007; Wallace, Malterer, & Newman, 2009). These results suggest that although high and low anxious psychopaths with BIS/BAS profiles similar to those proposed by Lykken could be found, and although there is evidence that low BIS may differentiate personality from behavioral aspects of psychopathy (Ross et al., 2007; Ross et al., 2009; Wallace et al., 2009), a more central feature of psychopathy might be high BAS.

Many researchers have used Carver and White's (1994) BIS scale in investigations of Lykken's low fear hypothesis, but Poythress et al. (2008) have suggested that a moratorium be placed on its use, citing its stronger relations with negative emotionality than with fear sensitivity. Some recent research investigations of psychopathy have incorporated the Sensitivity to Punishment and Sensitivity to Reward scales (SPSRQ; Torrubia, Ávila, Moltó, & Cesaras, 2001) as measures of BIS and BAS (e.g., Newman et al., 2005; Newman & Malterer, 2009; Ross et al., 2007; Wallace et al., 2009).

PCL(-R) Psychopathy

A turning point in the psychopathy literature was the development of Hare's (1980) Psychopathy Checklist (PCL), intended to identify psychopaths, generally based

on Cleckley's criteria, in forensic settings. This instrument and its revised version (PCL-R; Hare, 1991, 2003) have frequently been described as the "gold standard" of psychopathy measurement (Lilienfeld & Fowler, 2006; Ross et al., 2007; Williams, Paulhus, & Hare, 2007). Hare (1980) chose not to include a low-anxiety item in the PCL, noting that in validation studies, Cleckley's "nervousness" item was unrelated to what seemed to be the core elements of psychopathy. Hare (2003) concluded that the cumulative research indicated that self-report anxiety and fear tended to be only weakly, and typically negatively, correlated with PCL-R scores. Hare (2003) suggested that, in terms of anxiety, psychopaths likely represented a marked contrast to the majority of Cleckley's very troubled psychiatric patients, leading Cleckley to overstate the psychopathic lack of anxiety. Schmitt and Newman (1999) found that self-report measures of diverse interpretations of the anxiety construct (e.g., trait anxiety, harm avoidance, neuroticism) were unrelated to PCL-R psychopathy, suggesting that the two constructs are independent.

A factor analysis of the 22-item PCL (Harpur, Hare, & Hakstian, 1989) yielded two oblique factors, with Factor 1 encompassing the callous and manipulative personality characteristics associated with psychopathy and Factor 2 encompassing the unstable and antisocial lifestyle associated with psychopathy. The two factors, although overlapping, have been shown to have somewhat different correlates. Factor 1 has been found to be positively related to verbal IQ (Harpur et al., 1989; Vitacco, Neumann, & Jackson, 2005) and socioeconomic status (Harpur et al., 1989) in psychiatric and offender samples, whereas these same studies have shown Factor 2 to be negatively related to these variables. Smith and Newman (1990) reported that Factor 2 but not Factor 1 was

positively related to alcohol and drug dependence. The differential characteristics and correlates of Factors 1 and 2 have led some authors (e.g., Levenson et al., 1995) to interpret them as analogous to Karpman's primary and secondary psychopathy, respectively.

There is strong evidence that the PCL(-R) items measure a common construct, with all items intercorrelated and contributing to the instrument's construct and predictive validity (Hare, 2003). However, some authors (e.g., Lilienfeld & Fowler, 2006) have suggested that Factor 2 (and secondary psychopathy in general) was likely "pseudopsychopathy" (p. 116), representing diverse conditions with various etiological origins. This perspective is in keeping with Karpman's (1941) and Lykken's (1995) typologies in which primary psychopathy is "real" psychopathy, whereas social deviance can be the outcome of many factors. In the revised PCL (PCL-R; Hare, 1991), the psychometric properties and factor structure remained largely unchanged. The manual for the second edition of the PCL-R (Hare, 2003) incorporated findings from the vast literature that had accumulated in the intervening 12 years since the first edition. One such development was evidence that the PCL-R yielded a four-factor structure (Neumann, Hare, & Newman, 2007), with the original Factor 1 now divided into callous affect and interpersonal manipulation facets and the original Factor 2 now divided into erratic lifestyle and antisocial behavior facets. These four correlated factors load on a superordinate psychopathy factor (Neumann et al., 2007), suggesting that all four PCL-R subscales assess a common psychopathy construct.

SRP(-II, -III)

The Self Report Psychopathy scale (SRP; see Hare, 1985) was developed by the author of the PCL as a self-report instrument to measure PCL psychopathy. The first, 29-item version was not highly correlated (r = .38) with the PCL (Hare, 1985) and has since been revised to improve its construct validity and predictive validity (Williams et al., 2007). The SRP-II (Hare, Harpur, & Hemphill, 1989) was found to have good construct validity in its overall relations with the PCL-R (e.g., Hare, 1991), with the Big Five personality factor of (low) Agreeableness (Paulhus & Williams, 2002), and with antisocial behavior (Rogers et al., 2002). The instrument did not, however, yield a two-factor structure that corresponded to the PCL-R factors (Williams & Paulhus, 2004). Williams and Paulhus concluded that this failure was attributable to the presence of low-anxiety items and to the lack of antisocial behavior items in the SRP-II.

In developing the SRP-III, Williams et al. (2007) removed all anxiety-related items in order to improve its correspondence to the PCL-R. They justified this modification with both conceptual and psychometric reasons. Specifically, the authors noted that low anxiety is traditionally associated with good mental health rather than maladjustment, and that the anxiety factor that had emerged in the SRP-II (Williams & Paulhus, 2004) was not correlated substantially with external criteria such as misconduct (e.g., Nathanson et al., 2006; Williams & Paulhus, 2004). Williams et al. reported that their revised version of the instrument revealed an oblique, four-factor model that appeared analogous to the factor structure of the PCL-R, with all four SRP factors predicting self-reported misconduct. The SRP-III (Paulhus, Neumann, & Hare, in press) now yields scores on four correlated subscales, analogous to the four PCL-R factors. The

Interpersonal Manipulation and Callous Affect subscales have been interpreted as primary psychopathy, whereas Erratic Lifestyle and Antisocial Behavior have been interpreted as secondary psychopathy (e.g., Ray, Poythress, Weir, & Rickelm, 2009; Ross et al., 2007). However, the fact that the correlations among the subscales are roughly equal in size (e.g., Williams & Paulhus, 2005; Williams et al., 2007) renders the traditional parsing into Factor 1 and Factor 2 somewhat arbitrary.

PPI(-R)

The Psychopathic Personality Inventory (PPI; Lilienfeld & Andrews, 1996) was constructed to measure psychopathic personality characteristics rather than antisocial behaviors, and was based on undergraduate samples. After three successive rounds of factor analyses of a large and diverse pool of items with different samples, the authors identified eight PPI subscales: Machiavellian Egocentricity; Social Influence; Coldheartedness; Carefree Nonplanfulness; Fearlessness; Blame Externalization; Rebellious Nonconformity; and Stress Immunity. Stress Immunity (e.g., "I can remain calm in situations that would make many people panic"), the smallest of the eight factors (in terms of the sum of squared loadings) would seem to capture the low anxiety or lack of nervousness that Cleckley identified as being characteristic of the psychopath. Early evidence suggested that the construct assessed by the Stress Immunity subscale might not overlap with those assessed by the other PPI subscales. For example, Lilienfeld and Andrews reported that although most of the PPI subscales were positively intercorrelated, some correlations were negative, leading those authors to question whether Stress Immunity and Blame Externalization were truly part of the psychopathy construct. Falkenbach, Poythress, Falki, and Manchak (2007) reported that Stress Immunity was

significantly and negatively correlated with Machiavellian Egocentricity (r = -.26), Carefree Nonplanfulness (r = -.31) and Blame Externalization (r = -.48). Poythress, Edens, and Lilienfeld (1998) administered the PPI and the PCL-R to a sample of 50 male offenders and found that four of the eight PPI subscales were not significantly correlated with either PCL-R factor or the total score. The particularly low correlations of Stress Immunity and Fearlessness with the PCL-R led Poythress et al. to question the validity of models positing a role for fearlessness and low anxiety in the psychopathy construct. Unlike the SRP and PLR conceptualizations of psychopathy, the PPI does not appear to measure a single higher-order psychopathy factor, and Stress Immunity, in particular, would seem to represent content that might be related to low rather than high psychopathy. Indeed, in a sample of 131 male offenders, Stress Immunity had a significant negative correlation with aggressive misconduct (Edens, Poythress, Lilienfeld, Patrick, & Test, 2008).

Benning, Patrick, Hicks, Blonigen, and Krueger (2003) reported that the items in the PPI yielded two orthogonal factors, but that the Coldheartedness subscale, which was the third-largest factor in the validation study (Lilienfeld & Andrews, 1996) and reflects lack of empathy and callousness (characteristics highly relevant to the psychopathy construct) did not load onto either factor. Benning, Patrick, Blonigen, Hicks, and Iacono (2005) referred to these two factors as Fearless Dominance (Social Influence, Stress Immunity, and Fearlessness) and Impulsive Antisociality (Machiavellian Egocentricity, Rebellious Nonconformity, Blame Externalization, and Carefree Nonplanfulness). These two factors have been interpreted by some authors as roughly equivalent to primary and secondary psychopathy (e.g., Ray et al., 2009; Ross et al., 2007), an interpretation

endorsed by Edens et al. (2008). However, in developing the PPI, Lilienfeld and Andrews (1996) noted that they took a personality-based approach to psychopathy, and avoided measuring the social deviance of PCL Factor 2. Thus, both PPI factors should, by design, be measuring aspects of PCL Factor 1, not Factor 2.

Contrary to this conclusion, Poythress et al. (2010) recently stated that Fearless Dominance and Impulsive Antisociality were generally analogous to PCL-R Factors 1 and 2 respectively. However, the PPI factors do not seem to map onto the SRP and PCL Factors 1 and 2 either conceptually or empirically (e.g., Benning et al., 2005; Poythress et al., 1998; Williams & Paulhus, 2005). For example, Williams and Paulhus reported that the PPI Impulsive Antisociality factor was positively correlated with all SRP-III subscales, but that the PPI Fearless Dominance factor was uncorrelated with three of the four SRP-III subscales and was actually negatively correlated with Callous Affect. In addition, the PPI Machiavellian Egocentricity scale, which loads onto the Impulsive Antisociality factor, corresponds to the interpersonal deception of PCL Factor 1, not the irresponsible lifestyle of PCL Factor 2. Edens et al. (2008) have suggested that PCL-R Factor 1 appears to measure personality characteristics that are consistently maladaptive, whereas PPI Fearless Dominance captures aspects of positive adjustment that those authors considered to be part of the psychopathy construct.

Personality Correlates of Psychopathy

Several recent studies have investigated the utility of representing psychopathy as extreme levels of normal personality dimensions, such as those of the Five-Factor Model (FFM; McCrae & Costa, 1990). Paulhus and Williams (2002) reported that SRP psychopathy was characterized by high levels of Extraversion and Openness, and low

levels of Agreeableness, Conscientiousness, and Neuroticism. Widiger and Lynam (1998) translated each of the 20 PCL-R items into 16 facets classified within the FFM dimensions of personality, with Agreeableness and Conscientiousness being the most-represented personality factors. The authors speculated that Factor 1 was predominantly a reflection of low Agreeableness whereas Factor 2 was a combination of low Conscientiousness and low Agreeableness.

Most research examining psychopathy in relation to dimensions of normal personality variation has focused on the FFM. However, some recent research has been based on the HEXACO model (Lee & Ashton, 2004) of personality structure. Lee and Ashton (2005) reported that the Honesty-Humility factor of the HEXACO Personality Inventory (HEXACO-PI; Lee & Ashton, 2004) was correlated -.72 with the Levenson Primary and Secondary Psychopathy Scales (LPSP; Levenson et al., 1995) primary psychopathy. Thus, in terms of the HEXACO model, psychopathy is mainly characterized by low levels of Honesty-Humility.

In summary, previous research has suggested that psychopathy is negatively correlated with FFM Agreeableness and Conscientiousness and HEXACO Honesty-Humility. In contrast, however, it seems likely that Stress Immunity is characterized predominantly by low levels of FFM Neuroticism or HEXACO Emotionality, given that those factors are defined by traits of anxiety.

The Current Study

In the current study, we will investigate whether low anxiety is part of the psychopathy construct. We will examine the relations of a low-anxiety psychopathy subscale with other aspects of psychopathy and we will compare their links with the

major aspects of personality, with temperament, and with antisocial behavior. In particular, we will examine the relationship of the PPI-R Stress Immunity subscale to PPI-R and SRP-III subscales, to a latent SRP psychopathy factor, to the HEXACO personality factors, to reward and punishment sensitivity (i.e., representing BAS and BIS, respectively), and to self-reported student antisociality. We expect low anxiety not to be a central part of the psychopathy construct. Thus, we hypothesize that, in keeping with previous research (Falkenbach et al., 2007; Lilienfeld & Andrews, 1996; Salekin, Trobst, & Krioukova, 2001), Stress Immunity will show widely varying correlations with other PPI-R subscales and will also be uncorrelated with SRP-III psychopathy. Finally, we predict that the Stress Immunity subscale will have a markedly different pattern of correlations with personality and temperament variables than will other psychopathy subscales, and that Stress Immunity will not be positively associated with antisociality.

Method

Participants and Procedure

The 355 participants were recruited from a medium sized Canadian university and participated in small groups for course credit or $20. Data from nine participants were removed because the individuals did not meet the study requirements of being registered in the first year of undergraduate studies and being a fluent speaker of English. The remaining sample of 346 first year students consisted of 245 women (71%) and 101 men (29%), ranging from 16 to 35 years (M = 18.49, SD = 1.72).

Measures

Psychopathy. The first measure of psychopathy was the Self-Report Psychopathy-III (SRP-III; Paulhus, Neumann, & Hare, in press). This 64-item

questionnaire yields four correlated subscales corresponding to the four PCL-R factors: Interpersonal Manipulation, Callous Affect, Unstable Lifestyle, and Antisocial Behavior. Participants responded to items (e.g., "I purposely flatter people to get them on my side") on a 5-point scale from 1 (disagree strongly to 5 (agree strongly). Scores were calculated by taking the arithmetic average of each subscale, with higher scores indicating higher levels of psychopathy.

The second measure of psychopathy was the 56-item short form version of the PPI-R (PPI-R-SF; Lilienfeld & Widows, 2005), which samples all eight PPI subscales: Machiavellian Egocentricity, Social Influence, Fearlessness, Coldheartedness, Rebellious Nonconformity, Blame Externalization, Carefree Nonplanfulness, and Stress Immunity. Participants responded to items (e.g., "I often become deeply attached to people I like", reverse-keyed) on a 4-point scale: 1 (False), 2 (Mostly False), 3 (Mostly True), and 4 (True). Scores were calculated by taking the arithmetic average of each subscale, with higher scores indicating higher levels of psychopathy.

Personality. To measure personality, the 100-item form of the HEXACO-Personality Inventory-Revised (HEXACO-PI-R; Ashton & Lee, 2008) was used. The HEXACO-PI-R contains 25 facet scales, yielding six broad personality factors: Honesty-Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness, and Openness to Experience. Participants responded to items using a five-point scale: 1 (strongly disagree) to 5 (strongly agree).

Temperament. The Sensitivity to Punishment and Sensitivity to Reward Questionnaire (SPSRQ; Torrubia, Ávila, Moltó, & Cesaras, 2001) is a 48-item questionnaire designed to measure Gray's Behavioral Inhibition System (BIS) and

Behavioral Activation System (BAS). Validation studies (Torrubia et al., 2001) indicated that the Sensitivity to Reward and Sensitivity to Punishment scales were independent and possessed satisfactory psychometric properties. Participants responded to items (e.g., "Whenever possible, do you avoid demonstrating your skills for fear of being embarrassed?" [Sensitivity to Punishment]) using a five-point scale: 1 (disagree strongly) to 5 (agree strongly). Scores were calculated by taking the arithmetic average of each scale, with higher scores indicating higher levels of Sensitivity to Reward (our BAS measure) or Sensitivity to Punishment (our BIS measure).

Student Antisociality. The 46 items of the Lifestyle Survey, developed by the first author for this study, represent several broad areas of antisocial behavior that were expected to be observed in a student sample. Participants responded to items (e.g., "I have lied about my education or work history on my resume") using a four-point scale: 1 (I have never done this), 2 (I have done this once or twice), 3 (I have done this a few times), and 4 (I have done this frequently). Scores were calculated by taking the arithmetic average of all items, with higher scores indicating higher levels of antisociality.

Results

Statistical Issues

In this study, we calculated correlations and conducted regression analyses and confirmatory factor analyses. In order to assess whether study variables met the assumption of normality, skewness and kurtosis values were examined. All values fell into the "acceptable" range of -2 to +2 (George & Mallery, 1999), with the exception of the kurtosis value for Student Antisociality (4.27). In fact, only Student Antisociality had

a skewness or kurtosis value that fell outside the "excellent" range of -1 to +1 as identified by George and Mallery. We conducted a logarithmic transformation of Student Antisociality, and the subsequent pattern of relationships was similar to that of the untransformed variable. Thus, we opted to present results using the original variable.

Observation of scatterplots suggested that all bivariate relationships investigated in the current study were linear. Homoscedasticity was evaluated by examining the scatterplot of the standardized residual scores on the dependent variable by the standardized predicted scores on that variable. The scatterplot showed greater variability in the residual scores at higher levels of the predicted scores, which indicated that the assumption of homoscadasticity did not hold in this data set. This result is unsurprising given the substantial skew and kurtosis in the Student Antisociality scores. However, when the regression analyses were computed using the natural logarithm of Student Antisociality scores as the dependent variable, thereby reducing skewness and kurtosis to acceptable levels, the heteroscedasticity was reduced, even though the regression results remained essentially the same. Therefore, the regression results are reported based on the original Student Antisociality scores.

Note that the Bonferroni procedure was not applied to correct for multiple correlation coefficients because of the nonindependence of the correlation coefficients and because of our focus on effect sizes rather than on conventional levels of statistical significance.

Descriptive Statistics and Internal Consistency Reliabilities

Means and standard deviations (both overall and by sex) for study variables are presented in Table 2.1, as are internal consistency reliabilities (Cronbach's alpha), and

effect sizes (Cohen's *d*) and significance levels (from *t* tests) of sex differences. The sex differences in psychopathy and antisocial behavior are consistent with previous literature.

Table 2.1

Means, Standard Deviations, Sex Differences, and Internal Consistency Reliability (Cronbach's Alpha) for Study Variables

	Total		Female		Male		F - M	Cronbach's
	Mean	*SD*	Mean	*SD*	Mean	*SD*	*d*	Alpha
SRP-III								
Factor 1								
Inter. Manipulation	2.51	.60	2.38	.58	2.80	.54	-.68**	.83
Callous Affect	2.33	.53	2.18	.45	2.70	.52	-1.01**	.79
Factor 2								
Erratic Lifestyle	2.72	.58	2.58	.54	3.06	.56	-.80**	.79
Antisocial Behavior	1.61	.53	1.51	.47	1.85	.60	-.59**	.83
Total SRP	2.29	.45	2.16	.40	2.60	.40	-.99**	.92
PPI-R								
Coldheartedness	1.90	.52	1.79	.48	2.17	.50	-.70**	.71
Fearless Dominance								
Social Influence	2.69	.55	2.68	.56	2.72	.50	-.06	.65
Fearlessness	2.60	.75	2.49	.73	2.89	.70	-.52**	.79
Stress Immunity	2.26	.72	2.13	.69	2.60	.70	-.62**	.82
Impulsive Antisociality								
Mach. Egocentricity	2.26	.64	2.13	.60	2.58	.62	-.68**	.73
Rebel. Nonconformity	2.17	.63	2.07	.61	2.42	.63	-.52**	.75
Blame Externalization	2.26	.71	2.26	.75	2.26	.62	-.01	.83
Carefree Nonplan.	1.82	.48	1.79	.47	1.89	.50	-.18	.65
Total PPI	2.25	.30	2.17	.29	2.43	.26	-.83**	.83
Personality								
Honesty-Humility	3.28	.61	3.37	.59	3.07	.61	.45**	.84

Table 2.1 (Cont.)

	Total		Female		Male		F - M	Cronbach's
	Mean	*SD*	Mean	*SD*	Mean	*SD*	*d*	Alpha
Emotionality	3.39	.60	3.59	.51	2.89	.49	1.27**	.82
Extraversion	3.56	.56	3.58	.56	3.52	.57	.11	.83
Agreeableness	2.91	.56	2.87	.53	3.00	.62	-.21	.82
Conscientiousness	3.43	.55	3.52	.55	3.20	.48	.54**	.82
Openness to Experience	3.17	.62	3.15	.63	3.23	.61	-.12	.82
Temperament (BIS/BAS)								
Reward Sensitivity	3.07	.44	3.01	.44	3.21	.40	-.43**	.79
Punishment Sensitivity	2.94	.49	2.96	.49	2.89	.46	.15	.83
Student Antisociality								
Total	1.56	.44	1.49	.38	1.73	.53	-.51**	.94

Note. *N*s = 243 to 245 women, 100 to 101 men. F = Female; M = Male. Inter. Manipulation = Interpersonal Manipulation; Mach. Egocentricity = Machiavellian Egocentricity; Rebel. Nonconformity = Rebellious Nonconformity; Carefree Nonplan. = Carefree Nonplanfulness. All items used a 1-to-5 response scale except the items of the PPI-R and the student antisociality scale, both of which used a 1-to-4 response scale.
** $p < .01$; * $p < .05$

However, because relationships between variables were generally similar within each sex, results are presented for the entire sample.

Relations Between the Psychopathy Subscales

As can be seen in Table 2.2, correlations among the SRP-III subscales were all roughly similar in size (.46 to .58). Correlations among the PPI-R subscales were much more varied, with many near-zero intercorrelations. In addition, there were significant

Table 2.2

Zero-Order Correlations Among SRP-III and PPI-R Subscales

	1	2	3	4	5	6	7	8	9	10	11	12
SRP-III												
1. Int. Manipulation (F1)		**.58**	**.54**	**.51**	**.30**	.15	.27	-.01	**.65**	**.39**	.18	.10
2. Callous Affect (F1)			**.46**	**.54**	**.51**	.08	.21	.12	**.47**	**.38**	.17	.10
3. Erratic Lifestyle (F2)				**.50**	.25	.28	**.55**	.14	**.49**	**.58**	.17	**.33**
4. Antisocial Behavior (F2)					.27	.10	.26	-.02	**.42**	**.40**	.21	.19
PPI-R												
5. Coldheartedness						-.09	-.02	**.39**	.10	.03	-.15	**.33**
6. Social Influence (FD)							**.30**	.10	.17	**.30**	.03	.09
7. Fearlessness (FD)								.12	.29	**.53**	.12	.07
8. Stress Immunity (FD)									.20	-.01	**-.37**	.28
9. Machiavellian Egocentricity (IA)										**.54**	**.39**	.07
10. Rebellious Nonconformity (IA)											.26	.08
11. Blame Externalization (IA)												-.09
12. Carefree Nonplanfulness (IA)												

Note. $N = 345$. Int. Manipulation = Interpersonal Manipulation; F1 = Factor 1; F2 = Factor 2. FD = Fearless Dominance; IA = Impulsive Antisociality. Values ≥ .30 appear in bold type. Correlations of .12 and greater are significant at the $p < .05$ level. Correlations of .13 and greater are significant at the $p < .01$ level. ** $p < .01$; * $p < .05$.

negative correlations among the subscales, with the largest of these between Stress Immunity and Blame Externalization (r = -.37). PPI-R Stress Immunity showed a widely varying pattern of correlations with the other PPI subscales. For example, Stress Immunity was uncorrelated with Rebellious Nonconformity, positively correlated with Coldheartedness, and negatively correlated with Blame Externalization.

The SRP-III and PPI-R total scores were correlated at .70. Subscale correlations between the two instruments varied greatly, with PPI-R Machiavellian Egocentricity showing the greatest overlap with all four SRP-III subscales. Rebellious Nonconformity, Coldheartedness, Fearlessness and, to a lesser extent, Blame Externalization, also showed consistent significant correlations with the four SRP-III subscales. PPI-R Stress Immunity and Social Influence, however, showed very little overlap with the SRP-III.

Because zero-order correlations indicated that some but not all PPI subscales were measuring constructs related to SRP-III psychopathy, we examined the extent to which each PPI-R subscale loaded onto a latent SRP-III psychopathy factor.

PPI-R Factor Loadings on a SRP-III Latent Variable

First, all four SRP-III subscales were modeled as exogenous variables loading onto a latent general psychopathy factor. Each of the subscales loaded substantially onto the general factor (see Figure 2.1), with standardized regression weights of the subscales ranging from .67 (Erratic Lifestyle) to .76 (Interpersonal Manipulation). The fit of this model was generally good: chi-square = χ^2 (2) = 4.65, p = .098, RMSEA = .062, CFI = .994, and SRMR = .017.

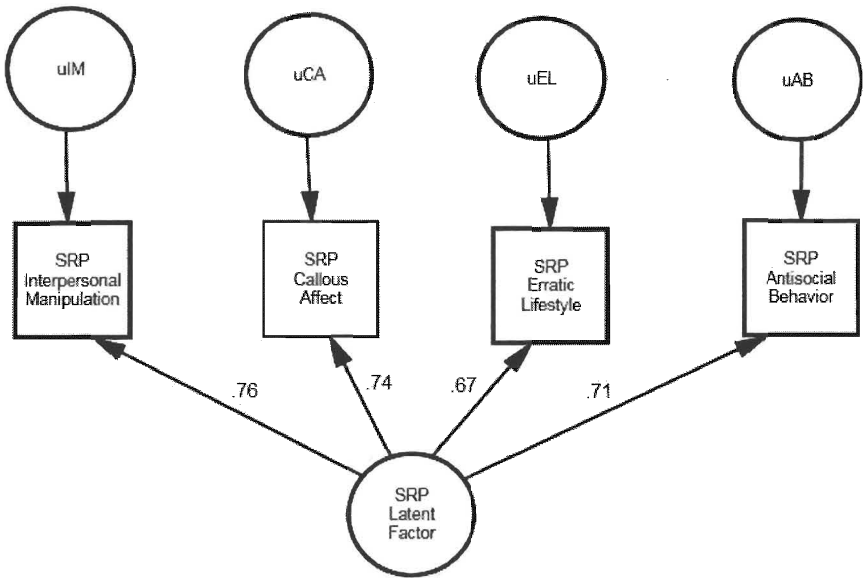

Figure 2.1. SRP-III Subscale Loadings on the Latent Factor

Table 2.3

Loadings of SRP-III and PPI-R Scales on Psychopathy Factor

Instrument	Subscale	Loading
SRP Factor 1	Interpersonal Manipulation	.76
	Callous Affect	.74
SRP Factor 2	Erratic Lifestyle	.67
	Antisocial Behavior	.71
PPI-R	Coldheartedness	.38
PPI-R Fearless Dominance	Social Influence	.15
	Fearlessness	.33
	Stress Immunity	.10 (ns)
PPI-R Impulsive Antisociality	Machiavellian Egocentricity	.80
	Rebellious Nonconformity	.53
	Blame Externalization	.25
	Carefree Nonplanfulness	.17

Note. $N = 345$. SRP-III loadings were based on CFA of the four SRP-III scales alone; PPI-R loadings are based on successive CFAs involving the SRP-III scales plus one PPI-R scale (see text for details). All loadings were significant at the $p < .01$ level unless noted as ns (non-significant)

Next, to examine the loadings of the PPI-R subscales on the SRP psychopathy factor, we added each PPI-R subscale individually to the model. In each case, we fixed the error variances of the SRP-III subscales to be equal to the values obtained in the original model, so that the loadings of the SRP-III subscales would not be influenced by the addition of the PPI-R subscale. We introduced correlated error terms on the basis of modification indices (e.g., PPI Rebellious Nonconformity and SRP Erratic Lifestyle; PPI Coldheartedness and SRP Callous Affect). In most cases, the model fit was good, with all

chi-square tests non-significant, with the exception of Stress Immunity (p = .024). RMSEA values of the models ranged from .000 (Coldheartedness, Social Influence, Fearlessness, Rebellious Nonconformity, Blame Externalization) to .033 (Stress Immunity). SRMR values ranged from .012 (Fearlessness) to .059 (Stress Immunity). CFI values ranged from .979 (Stress Immunity) to 1.000 (Coldheartedness, Social Influence, Fearlessness, Rebellious Nonconformity, Blame Externalization). Table 2.3 shows the loading (standardized regression weight) of each of the PPI-R subscales when added to the model. Loadings ranged from .10 (Stress Immunity) to .80 (Machiavellian Egocentricity).

Relations between Psychopathy and Personality

As can be seen in Table 2.4, the four SRP-III subscales and total SRP-III scores are characterized by low Honesty-Humility, low Emotionality, low Conscientiousness and, to a lesser extent, low Agreeableness. There was little difference in the pattern of correlations with personality between SRP-III Factor 1 and Factor 2 subscales.

As can be seen in Table 2.4, the overall PPI-R and SRP-III scores share a similar location in the personality space. PPI-R subscales, however, are widely varying in their relations with the personality factors. Of the subscales that did not load highly onto the latent SRP psychopathy factor, the personality correlates were also dissimilar. For example, Stress Immunity was characterized by low Emotionality, high Extraversion and *high* Agreeableness, and had a slight *positive* (but non-significant) correlation with Honesty-Humility.

Table 2.4

Zero Order Correlations and Multiple R*s in the Prediction of Psychopathy from Personality*

	R	H	E	X	A	C	O
SRP-III							
Total SRP	.72	**-.55**	**-.43**	-.16	-.20	**-.43**	.04
SRP-III Factor 1							
Interpersonal Manipulation	.65	**-.60**	-.23	-.14	-.25	**-.30**	.02
Callous Affect	.66	**-.35**	**-.54**	-.21	-.17	-.26	-.03
SRP-III Factor 2							
Erratic Lifestyle	.64	**-.36**	**-.39**	.02	-.08	**-.50**	.10
Antisocial Behavior	.51	**-.42**	-.23	-.19	-.14	**-.31**	.02
PPI-R							
Total PPI	.69	**-.40**	**-.47**	.16	.02	**-.45**	.15
Coldheartedness	.54	-.28	**-.42**	-.10	-.03	-.21	-.21
PPI-R Fearless Dominance							
Social Influence	.67	-.14	-.11	**.60**	.02	-.05	.14
Stress Immunity	.66	.10	**-.53**	**.33**	**.34**	-.12	-.01
Fearlessness	.47	-.11	**-.33**	.21	.21	-.16	.18
PPI-R Impulsive Antisociality							
Machiavellian Egocentricity	.62	**-.52**	-.17	-.16	-.22	**-.38**	.14
Rebellious Nonconformity	.56	-.19	-.29	-.05	-.01	**-.35**	**.39**
Blame Externalization	.30	-.16	.05	-.22	-.22	-.10	-.04
Carefree Nonplanfulness	.51	-.13	-.12	.05	.01	**-.47**	-.10

Note. $N = 346$. Correlations of .12 and greater are significant at the $p < .05$ level. Correlations of .13 and greater are significant at the $p < .01$ level. Correlations of .30 or greater appear in bold type.

Relations Between Psychopathy and Temperament

As can be seen in Table 2.5, none of the four SRP-III subscales were significantly correlated with BIS (as measured by Sensitivity to Punishment). BIS showed a widely varying pattern of correlations with the PPI-R. BIS was significantly and negatively correlated with all three PPI Fearless Dominance subscales (including Stress Immunity) and with Coldheartedness. However, BIS was significantly and positively correlated with two of the four Impulsive Antisociality subscales (Machiavellian Egocentricity and Blame Externalization).

Also as seen in Table 2.5, BAS (as measured by Sensitivity to Reward) was significantly and positively correlated with all SRP-III subscales and with all PPI subscales with the exceptions of Coldheartedness and Stress Immunity.

Relations Between Psychopathy and Student Antisociality

As can be seen in Table 2.6, all SRP and PPI subscales were significantly and positively related to student antisociality, with the exception of PPI-R Stress Immunity, which had a weak (nonsignificant) *negative* correlation.

To further examine the relations between the two psychopathy instruments and student antisociality, two regression analyses were conducted. First, the SRP-III subscales were entered into a regression in the prediction of student antisociality. Next, the PPI-R subscales were entered into a similar regression analysis. Results can be seen in Table 2.6, where both zero-order correlations and standardized regression weights are shown. Both instruments predicted antisocial behavior to substantial and similar extents. At the subscale level, although the four SRP-III subscales showed similarly-sized

Table 2.5

Correlations of SRP-III and PPI-R Psychopathy Subscales with Measures of BIS and BAS

	BIS	BAS
SRP-III Factor 1		
Interpersonal Manipulation	.11	**.57**
Callous Affect	-.01	.26
SRP-III Factor 2		
Erratic Lifestyle	-.11	**.54**
Antisocial Behavior	.09	.27
PPI-R		
Coldheartedness	-.14	.05
PPI-R Fearless Dominance		
Social Influence	**-.46**	**.32**
Fearlessness	-.26	**.30**
Stress Immunity	**-.47**	-.06
PPI-R Impulsive Antisociality		
Machiavellian Egocentricity	.23	**.50**
Rebellious Nonconformity	-.09	**.32**
Blame Externalization	.27	.16
Carefree Nonplanfulness	-.06	.17

Note. $N = 346$. Correlations of .12 and greater are significant at the $p < .05$ level. Correlations of .14 and greater are significant at the $p < .01$ level. BAS (Behavior Activation System) was measured by the Sensitivity to Reward scale; BIS (Behavior Inhibition System) was measured by the Sensitivity to Punishment scale. Correlations with absolute values of .30 or greater appear in bold type.

significant, positive correlations (.45 to .55) with student antisociality, only Interpersonal Manipulation and Antisocial Behavior were significant contributors to the prediction.

For the PPI-R, there was much variation between subscales in their correlations with student antisociality. Excluding Stress Immunity, the remaining subscales had correlations ranging from .12 (Carefree Nonplanfulness) to .53 (Machiavellian Egocentricity). Of the eight subscales, four were significant in the prediction of student antisociality. Stress Immunity was not one of the four significant predictors, and to the extent that it did add to the prediction of antisociality, it was in the negative direction.

Discussion

In this study, we investigated whether low anxiety was a part of the psychopathy construct by examining the relations of a measure of low anxiety with other indicators of psychopathy and with several variables that are conceptually linked with psychopathy. First, we examined the relations of the PPI-R Stress Immunity subscale with other indicators of psychopathy as assessed by the PPI-R and the SRP-III. Then, we compared Stress Immunity with those other indicators in terms of their links to personality, temperament, and student antisociality. It was hypothesized that PPI Stress Immunity would be unrelated to SRP-III psychopathy, not only because the SRP-III excludes low anxiety, but also because low anxiety is conceptually independent of the other indicators of psychopathy. We hypothesized that Stress Immunity would show a pattern of correlations with dimensions of personality and temperament and with antisocial behavior different from those shown by other indicators of psychopathy.

Results indicated that PPI-R Stress Immunity had inconsistent correlations with other PPI-R subscales, showing significant negative, positive, as well as near zero

Table 2.6

Zero Order Correlations and Standardized Regression Weights in the Prediction of Student Antisociality from the SRP-III and PPI-R

		r	*Beta*
SRP-III Factor 1			
Interpersonal Manipulation		.50	.20**
Callous Affect		.46	.10
SRP-III Factor 2			
Erratic Lifestyle		.45	.13
Antisocial Behavior		.55	.33**
SRP-III Total *R*	.63		
PPI-R			
Coldheartedness		.20	.22**
PPI-R Fearless Dominance			
Social Influence		.27	.20**
Fearlessness		.24	.04
Stress Immunity	.	-.10	-.10
PPI-R Impulsive Antisociality			
Machiavellian Egocentricity		.53	.35**
Rebellious Nonconformity		.37	.06
Blame Externalization		.30	.14**
Carefree Nonplanfulness		.12	.04
Total *R*	.61		

Note. $N = 346$. Correlations of .12 and greater are significant at the $p < .05$ level. Correlations of .14 and greater are significant at the $p < .01$ level. For standardized regression weights, ** $p < .01$; * $p < .05$

correlations. Stress Immunity had little overlap with SRP-III psychopathy, as evidenced by its weak correlations with the SRP-III and by its non-significant loading on an SRP-III latent factor. In fact, Stress Immunity was the only PPI subscale that did not load onto the SRP-III latent factor, suggesting that Stress Immunity is measuring content that is unrelated to psychopathy.

In the present study, we found that SRP-III psychopathy was characterized primarily by low Honesty-Humility, but also by low Emotionality and low Conscientiousness. This finding is in keeping with previous research (Lee & Ashton, 2005), and also with the fact that grandiosity and interpersonal dishonesty, central features of the psychopathy construct, would be reflected in low levels of Honesty-Humility. Stress Immunity, on the other hand, was characterized by high Extraversion, high Agreeableness, and low Emotionality, suggesting that high scores are associated with being outgoing, cooperative, and easy-going. Psychopathy, however, has been shown to be related to uncooperative, disagreeable personality characteristics (e.g., Paulhus & Williams, 2002; Widiger & Lynam, 1998). These disparate locations in the personality space provide compelling evidence that what the Stress Immunity subscale is measuring is not part of the psychopathy construct. Previous research has indicated that, contrary to Lykken's theory, both primary and secondary psychopathy are associated with high BAS, whereas primary psychopathy has, in some studies, been associated with low BIS. In the current study, Stress Immunity was strongly associated with low BIS, in keeping with Lykken's theory. However, Stress Immunity was uncorrelated with BAS, which is consistent with Lykken's theory that primary psychopathy is characterized by a weak BIS and an average BAS, but contrary to research findings which suggest that all

aspects of psychopathy tend to be positively correlated with BAS (e.g., Ross et al., 2007; Ross et al., 2009; Wallace et al., 2009).

Finally, the relationship between Stress Immunity and student antisociality was investigated. Stress Immunity was the only subscale from both instruments to show no significant correlation with student antisociality. Stress Immunity did have a near significant correlation with student antisociality, but it was a *negative* correlation. Although it might be argued that Stress Immunity reflects a traditional, definitional component of psychopathy, it would seem to be extremely problematic that this subscale is unrelated to self-report antisocial behavior in a sample very similar to those used in the development of the instrument. Edens et al. (2008), while acknowledging that Stress Immunity was associated with low risk of aggressive misconduct in a forensic sample, suggested that some aspects of PPI Fearless Dominance (the factor to which Stress Immunity belongs) might reflect aspects of good adjustment that are part of the psychopathy construct. Although this hypothesis bears further investigation, we think it is more likely that Stress Immunity is not part of the psychopathy construct.

Overall, both the SRP-III and the PPI-R generally showed the expected relations with personality, BIS and BAS, and student antisociality, but the PPI-R Stress Immunity subscale, representing low anxiety content, was the consistent exception. Cumulatively, the results of this study would seem to suggest that low anxiety is not integral to the psychopathy construct.

Although Stress Immunity showed the lowest loading among all PPI-R subscales on the SRP-III latent factor, Social Influence and Carefree Nonplanfulness also had very low loadings. Social Influence, according to Lilienfeld and Andrews (1996) measures the

tendency to charm and influence others. This definition might lead one to expect Social Influence to correlate with SRP-III Interpersonal Manipulation, but in fact Social Influence showed rather weak correlations with all SRP-III scales except Erratic Lifestyle. Carefree Nonplanfulness, according to Lilienfeld and Andrews, taps into the lack of planning aspect of impulsiveness and, in relation to SRP-III psychopathy, was most highly correlated with Erratic Lifestyle. Both Social Influence and Carefree Nonplanfulness were positively and significantly correlated with antisociality (although the correlation between Carefree Nonplanfulness and antisociality was quite modest), suggesting that although they share little variance with SRP-III psychopathy, they seem to possess greater criterion validity as aspects of psychopathy than does Stress Immunity.

Although measures of anxiety and of BIS have been used in investigations of Lykken's low fear hypothesis, PPI-R Fearlessness would seem to capture the low harm avoidance that Lykken described as central to his theory. Lilienfeld and Andrews (1996) described Fearlessness as measuring risk-taking and a lack of "anticipatory anxiety" around potential harm. Although Fearlessness and Stress Immunity showed mostly similar personality correlates, Fearlessness was positively and significantly correlated with all SRP-III subscales, as well as with antisociality, suggesting greater construct validity as an aspect of psychopathy than was shown by Stress Immunity. These findings might suggest that some empirical support for Lykken's opposition to the use of anxiety scales in investigations of his theory.

One limitation of this study was that the measures used were all self-report. Future research could examine low anxiety and psychopathy in relation to documented antisocial behavior. For example, Nathanson et al. (2006) reported that SRP-III

psychopathy predicted cheating on a multiple-choice exam, as determined by cheating detection software. Such methods eliminate the concern that students might misreport their levels of antisocial behaviors. However, we do not expect that low anxiety would predict objectively-measured antisocial behavior to a greater extent than would self-reported antisocial behavior.

A greater concern is the use of the PPI-R Stress Immunity subscale as a measure of low anxiety. Our findings around the lack of association between low anxiety and psychopathy are counter to some physiological data suggesting that psychopaths show lesser electrodermal activitythan controls in conditions of impending punishment (Hare, 1982; Lykken, 1957). A similar attenuation of electrodermal response has been found when psychopaths are asked to imagine fearful experiences (Patrick, Cuthbert, & Lang, 1994). However, in terms of the PPI-R subscales, this psychopathy-related lack of response to impending harm might be better captured by the Fearlessness subscale, which Lilienfeld and Andrews (1996) described as measuring "*an absence of anticipatory anxiety concerning harm* and an eagerness to take risks" (p. 495, emphasis added).

Although it might be considered a limitation of this study that we used a sample of undergraduate students, it is important to remember that the PPI-R was developed to measure psychopathy in non-clinical samples and was, in fact, developed and validated with undergraduate samples – thus, if the Stress Immunity subscale represented content that was integral to psychopathy, it should have emerged as such in our student sample.

The results of this study leave open the possibility that psychopaths might behave quite differently as a function of their levels of anxiety. For example, one might suspect that psychopaths who are low in anxiety, compared with those high in anxiety, would be

more effective or less risk-averse in their antisocial activities due to their relative insensitivity to cues of punishment. Indeed, there is a recent literature suggesting that a low-anxious subtype of psychopath can be identified (Newman et al., 2005; Swogger & Kosson, 2007) and that only these individuals should be considered "true" psychopaths. However, the results of the present study indicate that anxiety is nearly independent of the common variance shared by features that are consensually agreed to represent aspects of psychopathy. This in turn indicates that low anxiety, as measured by the PPI-R Stress Immunity subscale, is not itself part of the psychopathy construct.

CHAPTER 3 (STUDY 2): PSYCHOPATHY AND EMOTIONAL INTELLIGENCE

Note: This chapter is based on the following article, with permission: Visser, B. A., Bay, D., Cook, G., & Myburgh, J. (2010). Psychopathic and antisocial, but not emotionally intelligent. *Personality and Individual Differences*, *48*, 644-648.

Abstract

Psychopaths are characterized as skilled manipulators, yet they are also said to be deficient in recognizing others' emotions. These two depictions suggest opposing predictions for the relation of ability-based Emotional Intelligence (EI) to psychopathy. In the current study, EI, psychopathy, and antisocial behavior were investigated in a sample of 429 undergraduate students from three universities. Results indicated that, as expected, EI was negatively correlated with antisocial behavior, and psychopathy was highly positively correlated with antisocial behavior. Total EI was significantly negatively correlated with all psychopathy scales for both sexes. There were no positive correlations between any EI subscales and psychopathy in either sex, suggesting that psychopathy is not related to high ability in any aspect of EI.

Introduction

Psychopathy refers to a pattern of manipulative, callous, erratic, and antisocial characteristics. Harris, Rice, Hilton, Lalumière, and Quinsey (2007) hypothesized that psychopathy reflects an evolutionarily plausible life history strategy, characterized by high short-term mating effort. In order for psychopathy to have evolved as a viable life history strategy involving the self-serving manipulation of others, one might expect psychopathic individuals to possess high levels of abilities that are related to understanding the emotions of others in order to use them effectively for personal gain. However, the suggestion that a psychopathic strategy depends on sophisticated interpersonal skills would seem to contradict the research indicating that psychopathy is related to deficits in the recognition and/or processing of emotions in others.

Shallowness of emotions has long been considered a hallmark of psychopathy (Cleckley, 1941/1988), with psychopaths described as lacking in empathy and callous in their emotional responses to others (Cleckley, 1941/1988; Hare, 2003). What is less certain is whether this blunted experience of emotion comes with a corresponding deficiency in the ability to detect and understand the emotions of others. For example, although lack of empathy is a definitional feature of psychopathy, there is evidence that psychopathic individuals show no deficits in theory of mind tasks (Blair et al., 1996; Richell et al., 2003), which assess the ability to determine what others are thinking, feeling, or believing and are positively associated with Emotional Intelligence (Barlow, Qualter, & Stylianou, 2010). These findings suggest that psychopathy-related deficits in empathy might be affective rather than cognitive. Furthermore, there is a substantial literature related to psychopathy and accuracy in the identification of emotions from

facial expressions. The results have been mixed, with some studies finding no psychopathy-related deficits in recognition of facial expressions (e.g., Book, Quinsey, & Langford, 2007; Glass & Newman, 2006) but with a number of studies supporting such a deficit, particularly in the recognition of sad affect (e.g., Dolan & Fullam, 2006; Hastings, Tangney, & Stuewig, 2008) and fearful affect (e.g., Blair, Colledge, Murray, & Mitchell, 2001; Montagne et al., 2005). These psychopathy-related deficiencies are sometimes related largely or entirely to Factor 2 psychopathy (Erratic Lifestyle, Antisocial Behavior), whereas Factor 1 (Interpersonal Manipulation, Callous Affect) has sometimes been positively correlated with accuracy of recognition of facial expressions (Blair et al., 2001; Habel, Kühn, Salloum, Devos, & Schneider, 2002).

Given the importance of emotions to psychopathy, emotional intelligence (EI) would seem to be a significant construct in relation to psychopathy. EI has been defined by Mayer, Salovey, and Caruso (2008) as four related abilities: *Perceiving* emotions accurately in oneself and others; *Understanding* emotions as well as associated emotional language; *Facilitating* thinking and problem-solving with the use of emotions; and *Managing* emotions or regulating moods in oneself and others to attain goals. Some aspects (subscales) of EI could be expected to relate to psychopathy in different ways. Given that psychopathy, by definition, involves the use of interpersonal manipulation, psychopathic individuals could be hypothesized to score highly on the Managing subscale, which assesses the management of emotions to attain goals. However, the observed psychopathy-related deficits in the recognition of sad affect would suggest that highly psychopathic individuals might score poorly on the Perceiving EI scale, which

includes an assessment of the ability to accurately identify the emotions expressed in faces, photographs, and artwork.

Ability vs. (Personality) Trait EI

EI is a relatively new concept that has yet to be fully developed in the research literature. One issue in EI relates to its conceptualization. Salovey and Mayer (1990) described the construct of EI as a cognitive ability, but other researchers and many writers in the popular press have defined EI by listing a number of personality characteristics that do not relate to general intelligence (or IQ) but can be assumed to be important to high performance both in the business environment and in the personal realm. Petrides and Furnham (2001) argued for a distinction between Trait EI (by which the authors seem to be referring to *personality* traits, in particular) and Ability EI, with Trait EI including diverse characteristics such as self-esteem, optimism, happiness, low impulsiveness, and assertiveness, as well as more clearly EI-related characteristics such as emotion appraisal and management.

The two different definitions of EI have resulted in different types of assessment instruments. Ability-based measures of EI, such as the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT; Mayer, Salovey, & Caruso, 2002), tend to correlate positively with measures of intelligence (e.g., Schulte, Ree, & Carretta, 2004), as well as with Agreeableness and Openness to Experience (e.g., Brackett & Mayer, 2003), and might reflect individuals' capacity for EI as opposed to their typical expression of EI. Trait EI has been more often measured using self-report instruments which tend to correlate with self-reports of other personality traits. Petrides and Furnham (2003) reported substantial correlations between their measure of Trait EI and four of the five

(i.e., all but Agreeableness) NEO-PI personality factors, with significant correlations ranging from .34 for Conscientiousness to -.70 for Neuroticism. Scores on measures of Ability EI and Trait EI are only modestly correlated with each other (r = .21 in Brackett & Mayer, 2003), suggesting they may represent different constructs.

The personality correlates of psychopathy have been explored in a number of investigations (Lee & Ashton, 2005; Miller, Lynam, Widiger, & Leukefeld, 2001; Paulhus & Williams, 2002). Given that Trait EI is so strongly associated with personality characteristics, an exploration of the relationship between self-reports of Trait EI and of psychopathy is unlikely to add much to our understanding of either construct. Moreover, to the extent that psychopathic individuals show an "egoistic bias" (Paulhus & John, 1998), those persons might overestimate their levels of trait EI, thereby distorting any relations between the two constructs. In contrast, however, the degree to which highly psychopathic individuals possess Ability EI is an unanswered question of scientific interest. Although the willingness of psychopathic individuals to manipulate others has been well established, it remains to be seen whether these manipulative tendencies are associated with exceptional abilities in understanding and using the emotions of themselves and others.

To the authors' knowledge, there has been only one published investigation to date of the relations between psychopathy and emotional intelligence. Malterer, Glass, and Newman (2008) explored the relations between psychopathy and the Trait Meta-Mood Scale (TMMS; Salovey, Mayer, Goldman, Turvey, & Palfai, 1995), which they described as Trait EI, in a sample of Caucasian male inmates. Malterer et al. found that Psychopathy Checklist Revised (PCL-R; Hare, 2003) Factor 1 was modestly but

significantly negatively correlated with the TMMS Attention subscale, a self-report measure of ability to allocate attention to one's own feelings. Austin, Farrelly, Black, and Moore (2007) investigated the relations of Ability EI to Machiavellianism, a construct which would seem to have a great deal of overlap with sub-clinical psychopathy (Lee & Ashton, 2005; McHoskey, Worzel, and Szyarto, 1998). Austin et al. (2007) reported a pattern of negative correlations between Machiavellianism and all EI subscales, with correlations for total EI, Facilitating Emotions, and Managing Emotions reaching significance. The authors noted that high scorers on Machiavellianism endorsed items on a self-report scale of emotionally manipulative behaviors, although their EI scores suggested they would not be highly skilled in these behaviors.

Antisocial Behavior

One indication of a relation between psychopathy and Ability EI is that both have been linked to antisocial behavior. Psychopathy has been shown not only to predict violent recidivism in male offenders (Harris, Rice, & Cormier, 1991), but also to predict antisocial behavior in college samples (Levenson, Kiehl, & Fitzpatrick, 1995; Nathanson, Paulhus, & Williams, 2006). In addition, there is some evidence of a relation between low Ability EI and antisocial behavior. Brackett, Mayer, and Warner (2004), for example, reported an association between low EI (primarily in the subscales related to perceiving and using emotions) and illegal drug use and deviant conduct in college men but not women, whereas Brackett and Mayer (2003) reported that MSCEIT scores were negatively correlated with deviant behavior but not drug use in college men and women. This evidence of a negative correlation between Ability EI and antisocial behavior might suggest that psychopathy and Ability EI would also be negatively correlated, but an

examination of correlations at the subscale level (of both psychopathy and EI) could shed further light on the relations between the constructs.

Sex Differences

Prior research provides evidence that there are sex differences in all three constructs employed in this study. The MSCEIT manual indicates that women typically score about half a standard deviation higher than men on total EI and also score higher on all subscales (Mayer et al., 2002). With regard to psychopathy, the base rate of male psychopaths is considerably higher than that for female psychopaths in forensic settings (Salekin, Rogers, & Sewell, 1997; Vitale & Newman, 2001) and men typically score about one standard deviation higher than women in non-clinical samples (Levenson et al., 1995; Lilienfeld & Andrews, 1996; Paulhus & Williams, 2002). Men also report higher levels of antisocial behavior than do women, even in student samples (e.g., Levenson et al., 1995). The substantial sex differences in these variables highlight the importance of conducting separate analyses for men and women, or otherwise controlling for sex in any investigation of these variable inter-relations.

The Current Study

In the current study, we investigate the relations between psychopathy, Ability EI, and antisocial behavior (subsequently referred to as "student antisociality" to distinguish it from the SRP-III Antisocial Behavior subscale). It is hypothesized that, in keeping with previous research, psychopathy will be strongly positively correlated with student antisociality, and that Ability EI will be negatively correlated with student antisociality. It is hypothesized that, consistent with their differential relations with antisocial behavior, that overall psychopathy and overall Ability EI scores will be negatively correlated.

However, there are no specific hypotheses around the relations between EI subscales and psychopathy subscales, as this study was designed to provide a first investigation as to the relations between these two constructs.

Method

Participants

The 486 first- and fourth-year undergraduate student participants were recruited from three universities (Canada = 168, United States = 118, South Africa = 144) via posters and in-class presentations. Fifty-seven observations with complete responses on only one portion of the two-part series of online questionnaires were removed, leaving a sample of 429 (254 female, 175 male). Of the 429 participants (*M* age = 20.48, *SD* = 3.09), 250 were Accounting majors, and 179 were Humanities or Social Sciences majors. The sample was racially mixed, with 290 (67.4%) participants identifying themselves as Caucasian, 69 as Black (16.0%), 27 (6.3%) as Chinese, 13 (3.0%) as South East Asian, 7 (1.6%) as Latin American, and the remaining identifying themselves as one of the other five racial categories or "other".

Measures

Psychopathy. The Self-Report Psychopathy-III scale (SRP-III; Paulhus et al., in press) was used to measure psychopathy. This 64-item self-report scale yields a total score as well as four subscale scores: Interpersonal Manipulation, Callous Affect, Erratic Lifestyle, and Antisocial Behavior. Participants responded on a scale of 1 (*Disagree Strongly*) to 5 (*Agree Strongly*). The internal consistency reliabilities (Cronbach's alpha) in the current study were .91 for SRP Total, .82 for Interpersonal Manipulation, .74 for Callous Affect, .79 for Erratic Lifestyle, and .74 for Antisocial Behavior.

Emotional Intelligence. The Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT; Mayer et al., 2002) was used to measure EI. This 141-item test yields an overall score as well as four subscale scores: Perceiving Emotions, Facilitating Emotions, Managing Emotions, and Understanding Emotions. Each subscale is calculated from two different types of tasks. Internal consistency reliabilities in normative studies were .93 for EI Total, .91 for Perceiving, .79 for Facilitating, .83 for Managing, and .80 for Understanding (Mayer et al., 2002).

Student Antisociality. Several items from Levenson et al.'s (1995) Antisocial Action scale were used (with the permission of the first author) in addition to items developed specifically for the current study, The final 23-item scale included items to reflect academic misconduct (*I have cheated on an exam*), uncooperative group behavior (*When I'm working in a group, I usually end up doing at least my fair share* – reverse keyed), and antisocial behavior (*I have vandalized school or public property*). Participants responded on a scale of 1 (*Disagree Strongly*) to 5 (*Agree Strongly*). The internal consistency reliability for this scale was .77.

Procedure

Every participant was assigned a unique identification number and a password. Participants completed all measures online, either in campus computer laboratories or from a personal computer. Each participant who completed all items received the equivalent of $10 (Canadian) in compensation.

Results

Statistical Issues

In this study, we calculated correlations and conducted regression analyses. In order to assess whether study variables met the assumption of normality, skewness and kurtosis values were examined. All values fell into the "acceptable" range of -2 to +2 (George & Mallery, 1999), with the exception of the kurtosis value for SRP-III Antisocial Behavior (2.60). In fact, only SRP-III Antisocial Behavior (skewness = 1.39) had a skewness or kurtosis value that fell outside the "excellent" range of -1 to +1 as identified by George and Mallery. We conducted a logarithmic transformation of this variable, and the subsequent pattern of relationships was similar to that of the untransformed variable. Thus, we opted to present results using the original variable.

Observation of scatterplots suggested that all bivariate relationships investigated in the current study were linear. Homoscedasticity was evaluated by examining the scatterplot of the standardized residual scores on the dependent variable by the standardized predicted scores on that variable. These scatterplots indicated that homoscedasticity could be assumed.

Note that the Bonferroni procedure was not applied to correct for multiple correlation coefficients because of the nonindependence of the correlation coefficients and because of our focus on effect sizes rather than on conventional levels of statistical significance.

Descriptive Statistics

Means and standard deviations (both overall and by sex) for study variables are presented in Table 3.1, as are the *d* values representing the magnitude of sex differences,

and significance levels of associated *t*-tests (note that age was uncorrelated with psychopathy and EI). As expected, there were sex differences in all study variables, with men scoring significantly higher in student antisociality, total psychopathy, and all psychopathy subscales. Women scored significantly higher on total EI and all EI subscales. There were no significant differences in psychopathy, EI, or student antisociality between Accounting students and Humanities/Social Sciences students.

Table 3.1

Means, Standard Deviations, and Sex Differences for Study Variables

	Total		Female		Male		F - M
	Mean	*SD*	Mean	*SD*	Mean	*SD*	*d*
Total EI	91.03	15.10	94.16	14.35	86.40	15.00	.53*
Perceiving	96.46	15.67	99.30	15.17	92.31	15.55	.46*
Managing	91.84	11.93	93.92	11.42	88.73	12.00	.44*
Facilitating	91.43	15.17	94.39	14.06	87.05	15.70	.49*
Understanding	91.73	13.88	93.39	13.70	89.22	13.80	.30*
Total SRP	2.25	.43	2.10	.35	2.48	.43	-.97*
Inter. Manipulation	2.58	.58	2.42	.53	2.81	.59	-.69*
Callous Affect	2.33	.50	2.13	.44	2.62	.44	-1.11*
Erratic Lifestyle	2.58	.57	2.41	.49	2.83	.60	-.77*
Antisocial Behavior	1.52	.48	1.42	.41	1.65	.54	-.47*
Student Antisociality	1.89	.45	1.80	.40	2.02	.48	-.50*

Note. $N = 254$ women, 175 men. * $p \leq .01$ (based on associated *t*-tests).

Table 3.2

Zero Order Correlations between Psychopathy, Emotional Intelligence, and Student Antisociality by Sex

	1	2	3	4	5	6	7	8	9	10	11
1. Total EI		.77	.74	.78	.77	-.30	-.27	-.24	-.15	-.22	-.22
2. Perceiving	.80		.34	.52	.43	-.18	-.13	-.11	-.12	-.19	-.12
3. Managing	.81	.47		.48	.48	-.31	-.30	-.26	-.16	-.20	-.26
4. Facilitating	.85	.63	.62		.49	-.19	-.21	-.13	-.08	-.15	-.17
5. Understanding	.76	.42	.57	.58		-.22	-.20	-.18	-.10	-.18	-.14
6. Total SRP	-.40	-.34	-.39	-.32	-.29		.83	.73	.80	.61	.58
7. Interpersonal Man.	-.28	-.28	-.28	-.20	-.17	.84		.58	.54	.29	.43
8. Callous Affect	-.26	-.16	-.30	-.19	-.21	.73	.57		.39	.19	.37
9. Erratic Lifestyle	-.28	-.23	-.29	-.24	-.20	.82	.58	.46		.44	.51
10.Antisocial Beh.	-.42	-.39	-.36	-.36	-.35	.74	.47	.37	.48		.43
11. Student Antisoc.	-.46	-.38	-.47	-.37	-.31	.70	.47	.45	.62	.66	

Note. $N = 254$ women, 175 men. Correlations for women are above the diagonal and correlations for men are below the diagonal. Total EI = Total Emotional Intelligence; Interpersonal Man. = Interpersonal Manipulation; Antisocial Beh. = Antisocial Behavior; Student Antisoc. = Student Antisociality. For women, *r*s $\geq .13$ are significant at the .05 level and *r*s $\geq .16$ are significant at the .01 level. For men, *r*s $\geq .15$ are significant at the .05 level and *r*s $\geq .20$ are significant at the .01 level.

Relations Between Psychopathy, EI, and Student Antisociality

Zero-order correlations between psychopathy, EI, and student antisociality are reported in Table 3.2. The correlations are presented separately for men and women due to the substantial sex differences in scores on study variables. The patterns of correlations, however, are similar for both sexes. That is, for both men and women, psychopathy subscales were negatively correlated with EI subscales and positively correlated with student antisociality, and EI subscales were negatively correlated with psychopathy subscales and with student antisociality. The correlations between Total Psychopathy and Total EI were significant and negative in both sexes and the correlations between Total Psychopathy and student antisociality were significant and positive for both sexes. Total EI and student antisociality were significantly and negatively correlated in both sexes.

To assess the extent to which psychopathy and EI predicted student antisociality, we conducted separate multiple regression analyses for men and women. For each sex, we predicted student antisociality from total EI and total psychopathy scores (see results in Table 3.3). For women, this model accounted for 33.4% of the variance, but only psychopathy was a significant predictor. For men, the model accounted for 52.3% of the variance in student antisociality, with both psychopathy and low EI significant predictors.

Discussion

In the current study, we investigated the relations between psychopathy, EI, and student antisociality in a sample of undergraduate students. The expected sex differences emerged, with women scoring significantly higher than men in EI, and men scoring significantly higher than women in psychopathy and student antisociality. As

Table 3.3

Predictors of Student Antisociality for Male and Female Participants

Predictor		*B*	*p*	95% CI
Women				
Constant		.58	.008	[.16, 1.01]
Psychopathy		.64	.000	[.52, .77]
Ability EI		-.0015	.332	[-.00, .00]
Adj. *R* Square	.33			
Men				
Constant		.90	.001	[.38, 1.42]
Psychopathy		.69	.000	[.56, .81]
Ability EI		-.0068	.000	[-.01, -.00]
Adj. *R* Square	.52			

Note. $N = 254$ women, 175 men. Unstandardized coefficients predicting student antisociality are reported. CI = Confidence Interval

hypothesized, total psychopathy was significantly and positively correlated with student antisociality for both men and women, and total EI was significantly and negatively correlated with student antisociality for both men and women. The hypothesis that total psychopathy and total EI would be significantly and negatively correlated was supported, in both male and female participants. At the subscale level, there were no positively signed inter-correlations between psychopathy and EI, indicating that none of the four measured facets of psychopathy were associated with high levels of any of the four measured facets of EI. Thus, there was no evidence of any Factor 1 psychopathy-related superiority in any of the EI subscales.

Whereas psychopathic individuals have sometimes been depicted as charming, masterful manipulators of others, the results of the current study suggest that individuals with high levels of psychopathic traits possess no exceptional ability in any area of EI. In fact, psychopathy (even the Interpersonal Manipulation subscale, the facet of psychopathy that would seem to be most reliant on EI), was consistently associated with low levels of EI in both men and women. It seems that, at least in a university sample, high scorers in psychopathy are likely to behave in ways that are detrimental to fellow students and to society, but to possess lower levels of perceiving, understanding, facilitating, and managing emotional information than do their less psychopathic peers.

Both psychopathy and EI were highly related to a measure of student antisociality, indicating that high scorers in psychopathy and low scorers in EI were also likely to behave in an uncooperative, socially antagonistic manner. However, in the prediction of student antisociality from EI and psychopathy, only psychopathy was significant for women, and psychopathy was the stronger of the two predictors for men. This finding suggests that to the extent that previous research has linked Ability EI to antisocial behavior, this link might be substantially attenuated after controlling for psychopathy. One obvious area of overlap between Ability EI, psychopathy, and antisocial behavior, is that all three are related to the Big Five Agreeableness factor—high Agreeableness in the case of Ability EI (Brackett & Mayer, 2003), and low Agreeableness in the case of psychopathy (Lee & Ashton, 2005) and antisocial behavior (Miller et al., 2003). Future research could examine whether the negative association between psychopathy and EI can be explained by personality variables, such as Agreeableness.

The current study was limited in that the broad factors of personality were not assessed, nor were variables assessing self-esteem or any forms of psychopathology. In addition, the sample was of restricted variability in age and education and presumably in intellectual ability. Future research could explore the generalizability of the present results to samples that are more heterogeneous in age and in education level.

Results of the current study suggest that the stereotype of the psychopath as a skilled manipulator might be based on fictional representations of psychopaths or on psychopathic individuals with exceptional levels of skill and/or intelligence. (Empirical studies have shown that psychopathy is generally uncorrelated with measures of general intelligence [Hare, 2003]). It would seem that deficits in EI are characteristic of students who scored high in psychopathic traits, whether EI is measured in a personality trait-like fashion (Malterer et al., 2008) or as an ability, such as in the current study. To the extent that measures of Ability EI can capture the ability to understand the emotional states of others, high scorers in psychopathy tend to be rather low in this ability. However, it is not at all clear that interventions aimed at improving EI would reduce psychopathy levels. Rice, Harris, and Cormier (1992) discovered that psychopathic patients who received empathy training were more likely to recidivate violently than were non-treated psychopathic patients. Future research could investigate whether psychopathy-related antisociality increases or decreases following similar interventions in non-clinical samples. If psychopathy is, indeed, an evolved life history strategy, the tendency that has evolved would seem to be a willingness to exploit other people rather than any exceptional ability in understanding the emotional states of others.

CHAPTER 4 (STUDY 3): SEX DIFFERENCES IN THE RELATIONS BETWEEN PSYCHOPATHY, SEXUAL BEHAVIOR, AND APPEARANCE-RELATED ESTEEM

Note: This section is based on the following article, with permission: Visser, B. A., Pozzebon, J. A., Bogaert, A. F., & Ashton, M. C. (2010). Psychopathy, sexual behavior, and esteem: It's different for girls. *Personality and Individual Differences, 48,* 833-838.

Abstract

We examined the relations of psychopathy with physical attractiveness, several aspects of sexual behavior, and appearance-related self-esteem. In a mixed-sex sample of 198 undergraduate students, we found substantial sex differences in the correlates of psychopathy. Consistent with previous research, psychopathy was associated with early and promiscuous sexual behavior and affairs in both men and women. However, there was a marked sex difference in the esteem correlates of psychopathy: Among men, psychopathy was associated with high self- (and other) rated attractiveness, low appearance anxiety, and low body shame, whereas psychopathy in women was associated with low self-esteem, and high body shame. The differences between men and women in the links between psychopathy and body esteem variables were not attributable to any sex differences in the effect of promiscuous sexual behavior on esteem, as sexual behavior was roughly uncorrelated with the esteem variables in both sexes. Further research is required to investigate the nature of this puzzling sex difference.

Introduction

Psychopathy is a construct defined by such traits as callousness, grandiosity, lack of empathy, parasitic lifestyle, and antisocial behavior (Hare, 2003). Promiscuity is generally considered a defining feature of psychopathy (Cleckley 1941/1988; Hare, 2003) and research has shown a positive association between psychopathy and early and promiscuous sexual behavior in both forensic (Harris, Rice, Hilton, Lalumière, & Quinsey, 2007) and community (Seto, Khattar, Lalumière, & Quinsey, 1997) samples. In addition, self-report primary psychopathy was associated with self-reports of infidelity in a workplace sample of men and women (Egan & Angus, 2004).

Previous research has also shown that psychopathy is positively associated with narcissism (Lee & Ashton, 2005; Paulhus & Williams, 2002), a construct encompassing entitlement, grandiosity, superiority, and dominance. In non-clinical samples, self-report narcissism scores and self-esteem scores are substantially correlated (see Baumeister, Campbell, Krueger, & Vohs, 2003), with Baumeister et al. noting that not all people with high self-esteem are narcissistic, but very few narcissists do not have high self-esteem. This research would seem to suggest that highly psychopathic individuals are likely to possess high self-esteem and to have generally positive views of themselves, their bodies, and their own physical and sexual attractiveness. There is a literature on sex differences in the loadings and importance of various characteristics of psychopathy (Dolan & Völlm, 2009); however, there has been little empirical research on whether psychopathic traits and behaviors are associated with different evaluations of one's own appearance and worth for women than for men.

Self-Esteem (and Body Shame and Appearance Anxiety) and Psychopathy

Although we are aware of no studies in which body shame and appearance anxiety have been investigated in relation to psychopathy, there are studies which have included both self-esteem and psychopathy as study variables. For example, in their investigation of body modification correlates, Nathanson, Paulhus, and Williams (2006) found that self-esteem was negatively but non-significantly correlated with Self Report Psychopathy III (SRP-III; Paulhus, Neumann, & Hare, in press) (r = -.10) in a predominantly female (70%) sample of undergraduates. Cale and Lilienfeld (2006), on the other hand, reported that total self-report psychopathy was positively and significantly correlated (r = .23) with self-esteem in a sample of male inmates. However, the two psychopathy factors related to self-esteem quite differently: Factor 1 (affective and interpersonal aspects of psychopathy) was positively correlated with self-esteem (r = .48), whereas Factor 2 (social deviance) was negatively but non-significantly (r = -.10) correlated with self-esteem. These studies suggest that Factor 1 and Factor 2 might relate differently to self-esteem; in addition, the fact that Nathanson et al.'s sample was predominantly female, whereas Cale and Lilienfeld's sample was male, suggests that the difference in findings could be due to sex differences in the relationship between self-esteem and psychopathy.

Self-Esteem and Sexual Behavior

With respect to the association between self-esteem and sexual behavior, Goodson, Buhi, and Dunsmore (2006) reviewed studies that included the relations of self-esteem and adolescent sexual behaviors (e.g., ever had sex, number of partners), and concluded that most studies found no significant associations. In their review of self-

esteem research, Baumeister et al. (2003) concluded that the relationships between self-esteem and various sexual variables was likely complex, and that the accumulation of evidence suggested that individuals with high self-esteem may engage in more sexual activity and take more risks, whereas bad sexual experiences and unwanted pregnancy might lower self-esteem.

Self-Esteem and Attractiveness

Baumeister et al. (2003) noted that the literature suggests that individuals with high self-esteem tend to describe themselves as more attractive than do individuals with low self-esteem, but that the same relationship might not exist between self-esteem and more objective measures of attractiveness. For example, Diener, Wolsic, and Fujita (1995) reported that self-esteem was highly positively correlated with self-rated attractiveness ($r = .59$), but generally uncorrelated with judges' ratings of attractiveness.

Physical Attractiveness and Psychopathy

The hallmarks of psychopathy include superficial charm and a deceitful interpersonal style. Therefore, physical attractiveness might be a useful tool to psychopathic individuals to the extent that it facilitates success in the manipulation of others. However, given that psychopathic individuals tend to be highly narcissistic, their self-reports of physical attractiveness might be substantially inflated relative to their actual levels of attractiveness as rated by others. That is, individuals who are high in psychopathy might over-estimate their own attractiveness to a greater extent than would individuals who are low in psychopathy. Gabriel, Critelli, and Ee (1994), for example, reported that narcissism predicted participants' enhancement of their own attractiveness. The relationship between self-estimated and other rated attractiveness is not strong (e.g.,

Diener et al., 1995; Gabriel et al., 1994), suggesting that these two ratings might be differentially related to psychopathy.

The Current Study

The current study was part of a larger investigation related to attractiveness, sexuality, and sexual fantasies. To address the substantial gap in the current literature with regard to the appearance-related self-esteem correlates of psychopathy and any associated sex differences, we undertook an investigation of the sexual behavior and esteem correlates of psychopathy in a sample of undergraduate students. Although we would not expect any participants in our sample to meet the criteria for a diagnosis of "psychopath", there are nevertheless wide individual differences in the underlying psychopathy construct, and considerable variability has been observed in non-clinical samples (e.g., Lalumière & Quinsey, 1996).This investigation provides novel information about sub-clinical psychopathy by exploring sex differences in the relationships between psychopathy and sexual behavior, self- and other rated attractiveness, and esteem variables. We expected that psychopathy scores would be associated with early sexual activity and a greater number of sexual partners in both sexes; however, the esteem variables were included to determine whether their relations with psychopathy would differ between the sexes

Method

Participants

Two hundred individuals (100 men, 100 women) were recruited from a medium-sized university in Ontario, Canada, and participated for course credit or $20. Data from two male participants were excluded, due to responses that appeared inconsistent and

likely fabricated. The final sample of 98 men and 100 women ranged in age from 18 to 32 years (M = 19.80, SD = 2.17). Of the 188 participants who indicated their ethnic/racial background, 164 (82.8%) indicated they were Caucasian, 9 (4.5%) Asian, 8 (4.0%) East Indian, and 7 (3.5%) Black. The majority of participants indicated that they were heterosexual, with 10 (nine female) participants (5.1%) indicating that they had had sex with a same-sex partner. Only one participant (male) rated himself as being exclusively homosexual, whereas 176 (88.0%) participants identified themselves as being exclusively heterosexual in terms of behavior.

Measures

Demographic Information. Participants responded to demographic items, such as age, sex, education, and ethnicity.

Psychopathy. The SRP-III (Paulhus et al., in press) is a 64-item questionnaire yielding a total psychopathy score and four correlated subscales: Interpersonal Manipulation, Callous Affect, Erratic Lifestyle, and Antisocial Behavior. The SRP has been shown to have good construct validity (e.g., Williams, Paulhus, & Hare, 2007). Interpersonal Manipulation and Callous Affect were averaged to create a Factor 1 score, and Erratic Lifestyle and Antisocial Behavior were averaged to create a Factor 2 score. Participants responded on a five-point scale from 1 (*Disagree Strongly*) to 5 (*Agree Strongly*). Total SRP and Factor 1 and 2 scores were calculated by taking the means of constituent items, such that possible scores ranged from 1 to 5.

Self-Rated and Other Rated Attractiveness. A mean self-attractiveness rating was calculated by taking the arithmetic average of ratings on three highly correlated items (rs = .71 to .78): *How physically attractive do you think you are? How sexually*

appealing do you think you are? and *How do you think a stranger would rate your physical attractiveness?* Responses to each attractiveness item were indicated on a 7-point scale, ranging from 1 (*well below average*) to 7 (*well above average*). For researcher rated attractiveness, participants were individually evaluated on one item that used a 7-point scale from 1 (*well below average*) to 7 (*well above average*). All participants were evaluated for attractiveness by at least one female researcher. For 142 participants, there were evaluations from two female researchers; the inter-rater reliability was .83.

Sexuality. Participants responded to items related to their sexual development and behavior. For the purposes of the current study, we examined number of sexual partners and affairs (lifetime and over the past year), and age of first intercourse as well as ages of first giving and receiving oral sex.

Esteem Variables. Three scales, described below, were administered to evaluate levels of self-esteem in general and in relation to one's appearance and body.

The 14-item Appearance Anxiety scale (Dion, Dion, & Keelan, 1990) measures the extent to which individuals experience anxiety about social evaluation of their appearance (e.g., *I wish I were better looking*). Participants responded on a five-point scale ranging from 0 (*Never*) to 4 (*Almost Always*). Hallsworth, Wade, and Tiggemann (2005) reported an internal consistency alpha of .81 for Appearance Anxiety.

Body Shame is one of three subscales on the Objectified Body Consciousness Scale (OBCS; McKinley & Hyde, 1996). The eight-item Body Shame subscale was developed to measure the extent to which an individual (particularly, a woman) would feel like a bad person for not conforming to cultural expectations of her body (e.g., *When*

I can't control my weight, I feel like something must be wrong with me). In validation studies, the final eight Body Shame items had internal consistencies of .70 to .84 and good convergent validity. Participants responded on a five-point scale ranging from 0 (*Strongly Disagree*) to 4 (*Strongly Agree*).

The 10-item Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965) was used to measure global self-esteem (e.g., *On the whole, I am satisfied with myself)*. This scale has been widely used and has shown good reliability and validity in diverse samples. Participants responded on a four-point scale from 1 (*Strongly Agree*) to 4 (*Strongly Disagree*).

Procedure

Participants were tested in small same-sex groups in a lab where each person could be seated in a private enclosure with a curtain drawn. Evaluation of attractiveness (see below) took place individually and without the knowledge of the participants. For 142 participants, both female researchers recorded these characteristics, whereas only one researcher recorded these observations for the remaining 56.

Results

Descriptive Statistics and Internal Consistency Reliabilities

Table 4.1 shows means and standard deviations (full sample and by sex), the sizes of sex differences (and significance levels of associated *t*-tests), and internal consistency reliabilities of the variables. Internal consistencies of all scales were .69 or higher. Consistent with previous literature, the correlation between self-rated attractiveness and other rated attractiveness was only .28.

Table 4.1

Means, Standard Deviations, Sex Differences, and Internal Consistency Reliabilities (Cronbach's Alpha) for Study Variables

	Total		Female		Male		F - M	Cronbach's
	Mean	*SD*	Mean	*SD*	Mean	*SD*	*d*	Alpha
Total SRP	2.60	.49	2.32	.41	2.88	.39	-1.40**	.92
SRP Factor 1	2.68	.54	2.37	.45	2.99	.43	-1.55**	.88
SRP Factor 2	2.52	.52	2.27	.46	2.77	.45	-1.12**	.85
Self-Rated Attract	4.98	.93	4.88	.97	5.09	.89	-.23	.90
Other Rated Attract	3.95	1.23	3.89	1.17	4.03	1.29	-.11	
Age 1st Provide Oral	16.56	1.85	16.34	1.98	16.78	1.79	-.24	
Age 1st Receive Oral	16.47	1.71	16.61	1.80	16.34	1.62	.16	
Age First Sex	16.89	1.63	16.98	1.78	16.81	1.47	.10	
# Sex Partner (Life)	1.69	.81	1.51	.76	1.86	.83	-.44**	
# Sex Partner (Year)	1.13	.59	1.00	.51	1.27	.64	-.46**	
Affair (Life)	.28	.45	.21	.41	.35	.48	-.32*	
Affair (Year)	.18	.39	.13	.34	.24	.43	-.28*	
Self-Esteem	30.78	4.33	29.69	4.14	31.91	4.25	-.53**	.79
Body Shame	1.50	.73	1.71	.69	1.28	.70	.61**	.69
Appearance Anxiety	1.60	.74	1.77	.72	1.43	.72	.47**	.90

Note. $N = 98$ men, 100 women. For Age 1st Provide Oral, $N = 89$ men, 88 women. Age 1st Receive Oral, $N = 95$ men, 90 women. Age First Sex, $N = 90$ men, 88 women. SRP = Self Report Psychopathy III. Number of Sex Partners (Life and Year) were transformed by taking the natural logarithm after first adding one to each variable. Affair (Life and Year) was converted to a dichotomous (yes/no) variable. ** $p < .01$; * $p < .05$ (based on associated *t*-tests)

Data were screened to ensure that statistical assumptions were met. The distributions for the number of sex partners, both lifetime and over the past year, were highly skewed. For example, the mean number of lifetime sex partners for women was 5.55 with a standard deviation of 11.13, but one woman indicated having had 100 partners. To reduce the influence of outliers, we transformed each variable by taking the natural logarithm after first adding one to each variable (to avoid zero values). (Note that correlations produced by the log-transformed variables were similar to nonparametric [rank-order] correlations.) The distributions for number of affairs, both lifetime and over the past year, were also highly skewed, with the majority of participants reporting that they had not had an affair (defined as having had sex with someone else while one is in a steady relationship) in their lifetime or in the past year. For example, 62 of the 97 men had never had an affair and 79 of the 100 women had never had an affair. We converted this variable to a dichotomous (yes/no) variable.

Sex Differences

As shown in Table 4.1, men's psychopathy scores were significantly higher than women's, with men's Total SRP scores, on average, well over a standard deviation higher than women's. There was no sex difference for other rated attractiveness, and there was a non-significant trend toward men having higher levels of self-rated attractiveness than had women. For the sexuality variables, there was no sex difference for age of first intercourse or first time giving or receiving oral sex. Men's scores were significantly higher than were women's for number of sex partners (lifetime and past year), and sexual affairs (lifetime and past year). For the esteem variables, women scored significantly

higher than did men in Body Shame and Appearance Anxiety, and significantly lower in Self-Esteem.

Correlations Among Attractiveness, Sexuality, and Esteem Variables

Correlations between self- and other reported attractiveness, sexual behavior, and the esteem variables are presented in Table 4.2. For women, self-reported attractiveness was associated with several sexual behavior and esteem variables, whereas other rated attractiveness was associated only with having had a greater number of sexual partners. For men, both self- and other rated attractiveness were associated with many sexual behavior and esteem variables. For women and for men, the sexual behavior variables showed substantial intercorrelations, but were generally uncorrelated with the esteem variables, all three of which intercorrelated above .50.

Correlations Among Psychopathy and Other Variables

Correlations between psychopathy and other study variables are presented in Table 4.3 as are standardized regression coefficients (beta) from the prediction of each dependent variable from Factor 1 and Factor 2 psychopathy.

Note that Factor 2 contains the item "I like to have sex with people I barely know," which introduces the problem of criterion contamination in relation to some of the sexual behavior variables. We calculated Factor 2 without this particular item, and the results changed very little, with all previously significant correlations remaining significant. Thus, correlations are reported with intact Factor 2 scores.

Attractiveness. For men, both self- and other rated attractiveness were positively correlated with psychopathy (see Table 4.3), with all correlations except that between Factor 1 and self-rated attractiveness reaching significance. For women, self- and other

Table 4.2

Zero Order Correlations of Attractiveness, Sexuality, and Esteem Variables

	1	2	3	4	5	6	7	8	9	10	11	12
1. Self Attract		.19	-.02	-.05	-.01	.40**	.40**	.21*	.24*	.26*	-.13	-.49**
2. Other Attract	.37**		-.13	-.06	-.01	.20*	.24*	.03	.01	.03	.01	-.10
3. First Provide Oral	-.35**	-.15		.74**	.69**	-.35**	-.19	-.19	-.12	.05	-.14	-.15
4. First Receive Oral	-.33**	-.32**	.74**		.59**	-.22*	-.14	-.23*	-.18	.06	-.21*	-.15
5. First Intercourse	-.20	-.22*	.68**	.74**		-.38**	-.06	-.33**	-.11	-.01	-.19	-.14
6. # Partners (Life)	.39**	.40**	-.33**	-.47**	-.47**		.72**	.37**	.33**	.05	.03	-.17
7. # Partners (Year)	.39**	.36**	-.25*	-.41**	-.34**	.79**		.29**	.44**	-.07	.07	-.08
8. Affair (Life)	.29**	.25*	-.37**	-.46**	-.51**	.49**	.48**		.60**	.03	.08	-.17
9. Affair (Year)	.21*	.22*	-.34**	-.30**	-.41**	.29**	.30**	.63**		-.08	.19	-.02
10. Self-Esteem	.28**	.07	-.09	-.10	-.05	.19	.16	.09	.09		-.51**	-.65**
11. Body Shame	-.22*	-.26*	.19	.19	.19	-.19	-.17	-.04	-.14	-.51**		.54**
12. Appear Anxiety	-.43**	-.32**	.13	.12	.12	-.27**	-.30**	-.09	-.10	-.59**	.53**	

Note. N = 85-97 for men, 83-100 for women. Appear Anxiety = Appearance Anxiety. Correlations for women are above the diagonal and correlations for men are below the diagonal.

** $p < .01$; * $p < .05$

Table 4.3

Zero Order Correlations (and Beta Coefficients) of SRP-III Factors with Other Variables

	SRP-III Psychopathy					
	Total F	Total M	Factor1 F	Factor1 M	Factor2 F	Factor2 M
Self Attract	.08	.32**	.02 (-.10)	.19 (-.06)	.12 (.19)	.39** (.42**)
Other Attract	-.06	.27**	-.07 (-.07)	.22* (-.10)	-.05 (-.00)	.26** (.20)
First Provide Oral Sex	-.27**	-.35**	-.19** (-.01)	-.27** (-.12)	-.30** (-.29*)	-.34** (-.28*)
First Receive Oral Sex	-.17	-.42**	-.10 (.05)	-.34** (-.16)	-.20 (-.23)	-.41** (-.32**)
Age First Intercourse	-.12	-.36**	-.03 (.18)	-.26* (-.10)	-.20 (-.31*)	-.36** (.31**)
# Sex Partners (Life)	.28**	.42**	.13 (.18)	.33** (.14)	.37** (.49**)	.41** (.33**)
# Sex Partners (Year)	.27**	.43**	.14 (.15)	.29* (.00)	.35** (.45**)	.48** (.48**)
Affair (Life)	.24*	.44**	.18 (.03)	.37** (.18)	.25* (.24)	.43** (.32**)
Affair (Year)	.31**	.36**	.21* (-.03)	.36** (.27*)	.36** (-.39**)	.32** (.16)
Self-Esteem	-.37**	.11	-.37** (-.30*)	.11 (-.09)	-.30** (-.10)	.08 (.03)
Body Shame	.38**	-.23*	.37** (.28*)	-.25* (-.23)	.32** (.14)	-.17 (-.04)
Appearance Anxiety	.19	-.25*	.21* (.22)	-.17 (.00)	.13 (-.02)	-.28** (-.28*)

Note. $N = 98$ men, 100 women. For First Provide Oral Sex, $N = 89$ men, 88 women; for First Receive Oral Sex, $N = 95$ men, 90 women; Age First Intercourse, $N = 90$ men, 88 women. F = Female; M = Male; Total = SRP Total Score. Standardized regression coefficients (beta weights) of Factor 1 and Factor 2 Psychopathy are reported in parentheses.

** $p < .01$; * $p < .05$

rated attractiveness were not significantly related with total psychopathy or either psychopathy factor.

Sexual Behavior. For age of first providing and receiving oral sex, as well as first intercourse, correlations with psychopathy were all negative and significant for men. Correlations were all negative for women as well, but only Factor 2 psychopathy and age of first providing oral sex reached significance. For both sexes, psychopathy was generally positively correlated with number of sex partners, and number of sexual affairs. For men, all correlations were significant, whereas for women, Factor 1 correlations with number of sex partners (lifetime and over the past year) and having had an affair (lifetime) were positive but not significant.

Appearance-Related Esteem. The pattern of correlations for the esteem scales and other variables showed substantial sex differences. For men, the esteem scales tended to correlate with psychopathy in the direction of more psychopathic men reporting low Body Shame and Appearance Anxiety. For women, the esteem scales showed a pattern of correlations with psychopathy in the opposite direction. That is, more psychopathic women reported lower self-esteem, greater Body Shame, and greater Appearance Anxiety. Correlations between esteem variables and psychopathy did not differ in direction for the two psychopathy factors for either male or female participants.

Sex as a Moderator

A series of hierarchical regression models (Table 4.4) were conducted in order to test sex as a moderator variable for the relations between psychopathy and the esteem variables (Self-Esteem, Body Shame, and Appearance Anxiety). Because these sex differences were largely confined to Factor 2 psychopathy, we present the moderation

analyses using Factor 2 scores only. Results were similar when analyses were conducted using total SRP scores, with all interaction terms significant. For each esteem criterion, sex (coded as 0 for *female* and 1 for *male*) and Factor 2 psychopathy were entered in the first step. The interaction term (sex by Factor 2 psychopathy) was entered in the second step.

Table 4.4

Results of Regression Analyses Testing Sex as a Moderator for the Relations Between Factor 2 Psychopathy and Esteem Variables

	Self-Esteem		Body Shame		Appearance Anxiety	
Step:	1	2	1	2	1	2
Sex	.316**	-.704	-.336**	.967*	-.193*	.936*
SRP	-.122	-.321**	.085	.341**	-.082	.140
Sex by SRP		1.143**		-1.464**		-1.269**
R^2	.078**	.111**	.092**	.146**	.059**	.099**
R^2 Change		.0033**		.053**		.040**

Note. $N = 98$ men, 100 women. SRP = Total SRP score. Standardized Betas are reported.
** $p < .01$; * $p < .05$.

In step 1, sex was a significant predictor of each of the esteem variables, whereas Factor 2 score was not a significant predictor of any of the esteem variables. In step 2, all interaction terms were significant, indicating that the relationship between psychopathy and the esteem variables is different for the two sexes.

Discussion

We examined sex differences in the relations of psychopathy to a variety of sexuality and esteem variables in a sample of male and female undergraduate students. We found that, as expected, high psychopathy scores were related to early sexual activity, more sexual partners, and having had an affair, in both men and women. However, relations between psychopathy and Self-Esteem, Body Shame, and Appearance Anxiety were moderated by biological sex, such that more psychopathic women had low Self-Esteem and high Body Shame. Among women there was also a pattern of modest but mostly non-significant positive correlations with Appearance Anxiety (e.g., $r = .19$ with Total SRP), whereas for men, psychopathy was unrelated to Self-Esteem, and was negatively associated with Body Shame and Appearance Anxiety. In addition, psychopathy was associated with high self-rated and other rated attractiveness in men, whereas psychopathy was unrelated to attractiveness in women. Among men and among women, sexual behavior variables were largely uncorrelated with esteem variables. Our results suggest that the sexual behavior correlates of psychopathy are similar for men and women, but the esteem correlates are not. We did not replicate Cale and Lilienfeld's (2006) finding that Factor 1 was positively correlated with self-esteem and that Factor 2 was negatively correlated with self-esteem. In the current study, for both men and women, self-esteem related to the two psychopathy factors similarly. An explanation for

the different esteem correlates of psychopathy could be that psychopathy is associated with a short-term mating strategy and that this strategy has been more effective for men than for women in the human evolutionary past. For women only, promiscuity is associated with being of low mate value (Buss, 1988), and short-term mating tactics are detrimental to a woman's but not a man's long-term mate value (Buss & Schmitt, 1993). Thus, the use of short-term mating tactics might be associated with low appearance-related anxiety in men, but might be due to low Self-Esteem and high Body Shame for women. However, this scenario does not account for the fact that, in the current study, women's sexual behavior was generally unrelated to their scores on esteem variables and there was no indication that having a larger number of partners was associated with low Self-Esteem, or high Body Shame or Appearance Anxiety.

An alternative hypothesis is that attractive men with few body concerns are likely to engage in early and promiscuous sexual behavior, but that for women, attractiveness and self-esteem are unrelated to sexual behavior. As summarized by Baumeister et al. (2003), there is little evidence that low self-esteem causes women to engage in more promiscuous sexual behavior. With regard to men's sexual tactics, however, Lalumière and Quinsey (1996) found that men with high mate value (of which physical attractiveness is a component) reported having had earlier sexual activity and a larger number of sexual partners than men with lower mate value. In their review, Buss and Schmitt (1993) noted that both men and women prefer physically attractive partners for short-term, uncommitted relationships, but that men's standards for short-term partners are lower than are women's. These findings suggest that unattractive men will have more difficulty finding consenting short-term partners than will unattractive women. This

hypothesis, however, does not seem to account for the fact that Factor 2 psychopathy was associated with other rated attractiveness in men. If replicated, this finding could suggest that psychopathy might influence attractiveness in men through various aspects of self-presentation (e.g., grooming) or, perhaps, that attractive men find it easier or more beneficial to adopt an erratic lifestyle.

Our study was limited by the fact that attractiveness was rated by two female researchers. We recommend that future investigations include several raters of both sexes. Another limitation to this study was that our sample was non-clinical; although psychopathy would seem to be a continuous rather than categorical variable, it cannot be assumed that results would be similar in a forensic sample. Future research should seek to determine whether psychopathy-based sex differences in appearance-related self-esteem exist in clinical samples.

CHAPTER 5: GENERAL DISCUSSION

Although there is a substantial body of literature describing the predictive utility of psychopathy in forensic populations, there are still many unanswered questions around the psychopathy construct in non-clinical populations. In fact, there are still gaps in the literature around issues fairly basic to the psychopathy construct. For example, is low anxiety central to the psychopathy construct, as suggested by Cleckley (1941/1988)? Does psychopathy correspond to high or low Emotional Intelligence? Are there sex differences in the correlates of psychopathy?

This dissertation has addressed these research questions (see Table 5.1 for a summary of the findings), adding to the cumulative evidence that self-report psychopathy has good predictive validity in non-clinical samples. For example, self-report psychopathy predicted antisocial behavior (Studies 1 and 2) and early and promiscuous sexual behavior (Study 3) in undergraduate samples. Also, the data presented here have added to the literature regarding the nature of psychopathy, showing that low anxiety is probably not a central feature of the psychopathy construct (Study 1) and that psychopathy is characterized by low ability in perceiving, understanding, facilitating, and managing the emotions of oneself and others (Study 2). In addition, this research has provided evidence that there might be important sex differences in the correlates of psychopathy (Study 3).

Review of Findings

Study 1. In Study 1, a low anxiety subscale (Stress Immunity) of the PPI-R was found to be unrelated to SRP-III psychopathy and to have widely varying correlations with other PPI-R subscales. Stress Immunity showed different relations with personality

and temperament than did other aspects of psychopathy, and was unrelated to self-report antisociality. Cumulatively, these results suggest that low anxiety is not part of the psychopathy construct. Whereas Study 1 findings are inconsistent with traditional conceptualizations of psychopathy, they are not inconsistent with the suggestion that there may be a low-anxious subtype of psychopath, as identified in recent studies (e.g., Falkenbach, Poythress, & Creevy, 2008; Hicks, Markon, Newman, Patrick, & Krueger, 2004).

Table 5.1

Summary of Findings

Study	Research Findings
1	Low anxiety is unrelated to the psychopathy construct, as indicated by its relations with personality, temperament, antisociality, and a latent psychopathy construct
2	Psychopathy was inversely related to all aspects of Ability Emotional Intelligence
3	Psychopathy was related to promiscuity and early sexual behavior in both men and women, but psychopathy was related to high appearance-related esteem in men and low appearance-related esteem in women

The results of Study 1 around the Stress Immunity subscale are not inconsistent with some of the results reported by the group of authors who developed and use the PPI. For example, those researchers have also reported that Stress Immunity is negatively correlated with other PPI subscales (Lilienfeld & Andrews, 1996), that Stress Immunity is negatively associated with institutional misconduct (Edens et al., 2008), and unrelated to the PCL-R (Poythress et al., 1998). Edens et al. (p. 89) speculated that Stress Immunity and the Fearless Dominance factor on which it loads are related to aspects of psychopathic good adjustment and may serve as a protective factor, perhaps explaining Cleckley's observation that psychopaths do not commit suicide. Although this hypothesis warrants further investigation, the results of the more systematic investigation of Study 1 suggest that low anxiety is not part of the psychopathy construct at all. It seems likely that Stress Immunity does relate to aspects of good adjustment, but that the benefits of this adjustment do not depend on levels of psychopathic traits.

Study 2. In Study 2, another traditional conceptualization of psychopathy was empirically investigated: that of the psychopath as savvy predator with highly developed skills in reading and manipulating the emotions of others. The findings of Study 2 suggested that psychopathy and Ability EI are inversely related – that is, students who reported higher levels of psychopathy scored lower on Ability EI. Although it had seemed possible that psychopathy might be differentially related to the Ability EI subscales (e.g., high in Using Emotions, low in Perceiving Emotions), this was not the case. Psychopathy was related to low ability on each of the EI subscales. In addition, we found that all SRP-III psychopathy subscales were significantly and negatively related to Ability EI – that is, we did not find differential relations between SRP Factors 1 and 2.

This finding is consistent with deficit models of psychopathy, which suggest that psychopathy is related to reduced ability to recognize and understand the emotions of others. However, the highly psychopathic and also emotionally intelligent individual might represent a subtype that is more effective in emotional manipulation and poses a greater danger to potential victims. In Study 2, both psychopathy and (low) Ability EI were related to antisocial behavior, but psychopathy was the stronger predictor.

Study 3. In Study 3, potential sex differences in the sexual behavior and esteem correlates of psychopathy were explored. The results indicated that psychopathy was associated with promiscuity and early sexual behavior in both men and women. However, the relationships between psychopathy and all appearance-related esteem variables were moderated by biological sex, such that men with psychopathic traits showed greater appearance-related esteem and women with psychopathic traits showed less appearance-related esteem. It seems likely that the risky, promiscuous lifestyle associated with high levels of psychopathy might be esteem-enhancing for men and esteem-damaging for women. However it is puzzling that the relationship between appearance-related esteem and psychopathy was not moderated by sexual behavior; instead, appearance-related esteem was generally unrelated to sexual behavior. These findings could indicate that there was a missing variable in this study. For example, psychopathy-related antisociality (which was not measured in this study) might be detrimental to the esteem of women but not that of men. Further research should be undertaken to replicate this sex difference, and to further explore its etiology.

Sex Differences

There were sex differences in mean levels of psychopathy in each of the three studies, with men's scores, on average, about a standard deviation higher than women's. This finding is consistent with sex differences in the personality factors that are most highly associated with psychopathy. In Study 1 as well as in previous research (De Vries, Lee, & Ashton, 2008; Lee & Ashton, 2005), psychopathy is characterized by low levels of Emotionality and Honesty-Humility, two personality factors for which there are substantial sex differences in favour of women (about one standard deviation for Emotionality and about half a standard deviation for Honesty-Humility). Ashton and Lee (2007) have argued that the Emotionality factor underlies kin-altruistic tendencies, which are hypothesized be stronger in women than in men due to sex differences in parental certainty and in biological investment in reproduction. Such tendencies are counter to the short-term mating strategy and low parental investment associated with psychopathy. Low levels of Honesty-Humility, according to Ashton and Lee (2007), are associated with unfair and exploitive interactions with others which are very much in keeping with the core characteristics and behaviors of psychopathy.

In Study 2, women were found to have higher levels of Emotional Intelligence than men, suggesting that skills in understanding and using emotions have been more important to the survival of women. Indeed, Taylor et al. (2000) reported that women were more likely than men to "tend-and-befriend" in response to stress, an evolutionary strategy that would have promoted group and personal survival. These tendencies would seem to be inconsistent with the self-serving nature of psychopathy.

In Study 3, psychopathy was associated with negative feelings about oneself and one's body for women, but low concern for appearance in men. It seems possible that these differences in appearance-related esteem are associated with societal sanctions for the gender-discrepant behaviors associated with female psychopathy (e.g., rule-breaking, risk taking, aloofness) or with the fact that the exploitive and short-term mating strategy associated with psychopathy is less effective for women than for men.

The findings of Studies 1, 2, and 3 that men have higher levels of psychopathy are in keeping with theory and evidence from the fields of personality, evolutionary, and social psychology. However, this sex difference in mean levels of psychopathy does not imply that female psychopathy is unimportant. In each of the three studies, psychopathy was an important predictor of important outcomes for both men and women.

Measurement Implications

When research investigations of psychopathy have included male and female participants, the results are often presented for the entire sample, on the basis that the patterns of correlations among study variables are similar (e.g., Levenson et al., 1995; Paulhus & Williams, 2002). However, the intriguing evidence of sex differences in esteem correlates of psychopathy from Study 3 suggests that psychopathy might have different implications for men and women. It seems possible that further sex differences might be uncovered with the refinement of psychopathy measures, such that they are more sensitive to the detection of psychopathy in women. The SRP-III, in particular, includes items that seem better able to detect psychopathy as expressed in a stereotypically male fashion. For example, the SRP-III Antisocial Behavior subscale includes the item "I have assaulted a law enforcement official or social worker". It is

possible that female psychopathy might instead be indicated by attempts to flirt with or otherwise sexually attract individuals in positions of authority.

The results of Study 1 indicated that two self-report psychopathy scales were effective in predicting antisocial behavior, despite rather different item content. The items of the PPI-R were developed specifically for use in non-clinical settings, and thus, might be expected to better capture psychopathic characteristics in samples in which there would be a very small percentage of individuals likely to endorse SRP-III Antisocial Behavior items such as "I was convicted of a serious crime" or "Every now and then I carry a weapon (knife or gun) for protection" or "I have violated my probation from prison". The SRP-III Antisocial Behavior items received low levels of endorsement in all three studies resulting in positively skewed distributions. It would seem that the SRP-III could be improved for use in non-clinical populations by revising the antisocial behavior items so that there is an emphasis on social deviance on a smaller scale rather than severe criminality. There has been some recent debate as to whether social deviance should be considered a part of the psychopathy construct (Skeem & Cooke, 2010) and, although not reported in the Study 1 and Study 2 results, supplementary analyses were conducted in which SRP-III scores were calculated without the Antisocial Behavior subscale, with little loss of predictive validity with regard to self-report antisociality.

The PPI-R, on the other hand, was normed with undergraduate samples and has items that appear to accurately represent the behaviors, emotions, and attitudes of its target population. However, the PPI-R includes subscales, most notably Stress Immunity but also Carefree Nonplanfulness, that show little overlap with SRP-III or PPI-R subscales, and do little to predict antisociality. The PPI-R might benefit from a renewed

examination of the subscales and their relative contributions to the overall construct validity of the instrument.

Implications for Clinical Psychopathy

Overall, these data support the validity and utility of the psychopathy construct and the use of self-report psychopathy scales in non-clinical populations. Studies 1 and 2 added to the cumulative evidence that the well-established relationship between psychopathy and antisociality in offender samples (see Hemphill, Hare, & Wong, 1998; and Leistico et al., 2008 for reviews) can be replicated in undergraduate samples, by using self-report scales of the kinds of antisociality that takes place on university campuses (e.g., plagiarism, lying on application forms, "jumping ahead" in line-ups, vandalism, etc.).

The findings of Study 1 suggesting that low anxiety is not part of the psychopathy construct generally parallel findings from investigations in forensic samples (Poythress et al., 1998; Schmitt & Newman, 1999). Schmitt and Newman, for example, reported that when they administered the PCL-R and nine different anxiety scales (corresponding to different characterizations of the anxiety construct) to male prisoners, psychopathy and anxiety were unrelated. In Study 1, however, we also compared the correlates of Stress Immunity with those of the less controversial aspects of psychopathy.

The Study 2 finding that psychopathy was associated with low Ability EI in a student sample has since been replicated to some extent in an undergraduate sample but not a forensic sample. Vidal, Skeem, and Camp (2010) initially found no relationship between PPI-R total scores and Ability EI in a sample of 188 male undergraduates. However, when the Stress Immunity scores were removed from the total, the adjusted

PPI-R total scores were significantly and negatively related to the Understanding Emotions and Managing Emotions subscales. The authors reported that the Fearless Dominance and Impulsive Antisociality factors had differential relations with Ability EI, with the latter negatively correlated with total EI and three of the four subscales, whereas the former was positively correlated with the Facilitating subscale. When the authors grouped high-scorers in psychopathy by Stress Immunity scores, they found that the high-anxious group had significantly lower levels of Ability EI than the low-anxious group. The authors hypothesized that "primary" (low-anxious) psychopaths are likely to achieve greater societal success than secondary psychopaths, due to these discrepancies in EI. Investigation of this hypothesis represents an empirical challenge in that populations with high base rates of psychopaths tend to be forensic settings where psychopaths have not achieved societal success.

The finding from Study 3 that there are sex differences in the appearance-related esteem correlates of psychopathy needs to be replicated, with a focus on finding mediators of this effect. If research determines that this sex difference is stable and mediators are determined, it would be of value to determine whether a similar effect exists in forensic samples. Because the literature is still relatively sparse with regard to the dimensional nature of psychopathy and the extension of psychopathy to non-clinical samples, replication of effects between the two populations is warranted. A potential issue with the investigation of appearance-related esteem in prison samples, however, is that there might be psychopathy-related sex differences in reactions to incarceration.

Limitations and Future Research

One limitation of the research presented in this dissertation is that it was based entirely on undergraduate samples. It will be important to continue to explore the non-clinical psychopathy construct in more diverse samples, including those which might include individuals with high levels of psychopathic traits and have achieved social and/or occupational success. Babiak (2007) has brought the psychopathy construct to the field of industrial/organizational psychology, and although much of this early work has been limited to small samples and case studies, the identification of psychopaths and sub-clinical psychopaths in the workplace appears to be a highly promising avenue of research. Such studies would seem to present an excellent opportunity to further investigate the roles of Ability EI and low anxiety in seemingly successful yet highly psychopathic samples.

Another limitation of this research is that, with the exception of Emotional Intelligence (which was measured with a maximum performance test) and attractiveness (which included other reports), all variables were measured with self-report instruments. In forensic samples, psychopathy is commonly measured with the PCL-R, which makes use of interview and file information. With respect to non-clinical psychopathy, the research is largely based on self-report instruments, which provide very important information including some that might be known only to the individual. However, a friend or family member might provide more accurate information in response to SRP-III items such as "People can usually tell if I am lying" or "People sometimes say that I'm cold-hearted". Research suggests that agreement between self- and other reports of the major dimensions of personality are about .50 to .60 for well-acquainted persons (Lee et

al., 2009). However, the results of Study 2 indicated that psychopathy was negatively correlated with the ability to detect and understand the emotions of oneself and others. Thus, it might be that the most highly psychopathic individuals are least able to report accurately their own emotionality as well as what people around them are thinking and feeling. Future research incorporating other report measures of psychopathy could provide valuable information regarding whether others see highly psychopathic individuals as these individuals see themselves. A relevant variable in any such study would be degree of acquaintanceship; it seems likely that a highly psychopathic individual might adopt a façade of "niceness" for co-workers and classmates, but family and long-term friends would likely have greater insight into those traits most relevant to psychopathy.

In addition to limitations associated with the use of self-reports of psychopathy, the results of Study 1 should be interpreted with caution until replicated with the addition of physiological measures of anxiety. It would be of particular interest to determine whether any psychopathy-related attenuation of physiological response to impending punishment correlates most highly with PPI-R Stress Immunity, PPI-R Fearlessness, as each of these study variables had somewhat different relations with psychopathy.

Summary

In conclusion, the research presented in this dissertation has clarified the psychopathy construct and also extended the body of research related to behavioral, emotional, and ability correlates of non-clinical psychopathy. Psychopathy would appear to be an important individual difference variable that can predict important outcomes (such as antisociality, sexual behavior, and appearance-related esteem) in non-clinical

samples. It will be important to next examine whether the self-report measurement of psychopathy can be improved, and whether there need to be sex-specific instruments. In addition, it will be important to incorporate other reports of psychopathic characteristics and behaviors into future investigations of non-clinical psychopathy.

References

American Psychiatric Association. (1952). *Diagnostic and statistical manual of mental disorders.* Washington, DC: American Psychiatric Association.

American Psychiatric Association. (1968). *Diagnostic and statistical manual of mental disorders* (2nd ed.). Washington, DC: American Psychiatric Association.

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text revision). Washington, DC: American Psychiatric Association.

Ashton, M. C., & Lee, K. (2007). Empirical, theoretical, and practical advantages of the HEXACO model of personality structure. Personality and Social Psychology Review, 11, 150-166. doi: 10.1177/1088868306294907

Ashton, M. C., & Lee, K. (2008). The prediction of honesty-humility-related criteria by the HEXACO and Five-Factor models of personality. *Journal of Research in Personality, 42,* 1216-1228. doi:10.1016/j.jrp.2008.03.006

Austin, E. J., Farrelly, D., Black, C., & Moore, H. (2007). Emotional intelligence, Machiavellianism and emotional manipulation: Does EI have a dark side? *Personality and Individual Differences, 43*, 179-189. doi:10.1016/j.paid.2006.11.019

Babiak, P. (2007). From darkness into the light: Psychopathy in industrial and organizational psychology. In H. Hervé and J. C. Yuille (Eds.) *The Psychopath* (pp. 411-428). Mahwah, NJ: Lawrence Erlbaum.

Babiak, P., & Hare, R. D. (2006). *Snakes in suits: When psychopaths go to work.* New York: Harper Collins.

Barlow, A., Qualter, P., & Stylianou, M. (2010). Relationship between Machiavellianism, emotional intelligence, and theory of mind in children, *Personality and Individual Differences, 48*, 78-82. doi:10.1016/j.paid.2009.08.021

Baumeister, R. F., Campbell, J. D., Krueger, J. I., & Vohs, K. D. (2003). Does high self-esteem cause better performance, interpersonal success, happiness, or healthier lifestyles? *Psychological Sciences in the Public Interest, 4*, 1-44. doi:10.1111/1529-1006.01431

Benning, S. D., Patrick, C. J., Blonigen, D. M., Hicks, B. M., & Iacono, W. G. (2005). Estimating facets of psychopathy from normal personality traits: a step toward community epidemiological investigations. *Assessment, 12*, 3-18. doi:10.1177/1073191104271223

Benning, S. D., Patrick, C. J., Hicks, B. M, Blonigen, D. M., & Krueger, R. F. (2003). Factor structure of the Psychopathic Personality Inventory: Validity and

implications for clinical assessment. *Psychological Assessment, 15*, 340-350. doi:10.1037/1040-3590.15.3.340

Blair, J., Sellars, C., Strickland, I., Clark, F., Williams, A., Smith, M., & Jones, L. (1996). Theory of mind in the psychopath. *Journal of Forensic Psychiatry, 7*, 15-25. doi:10.1080/09585189608409914

Blair, R. J. R., Colledge, E., Murray, L. K., & Mitchell, D. G. (2001). A selective impairment in the processing of sad and fearful facial expressions in children with psychopathic tendencies. *Journal of Abnormal Child Psychology, 29*, 491-498. doi:10.1023/A:1012225108281

Book, A. S., Quinsey, V. L., & Langford, D. (2007). Psychopathy and the perception of affect and vulnerability. *Criminal Justice and Behavior, 34*, 531-544. doi:10.1177/0093854806293554

Brackett, M. A., & Mayer, J. D. (2003). Convergent, discriminant, and incremental validity of competing measures of Emotional Intelligence. *Personality and Social Psychology Bulletin, 29*, 1147-1158. doi:10.1177/0146167203254596

Brackett, M. A., Mayer, J. D. & Warner, R. M. (2004). Emotional intelligence and its relation to everyday behavior. *Personality and Individual Differences, 36,* 1387-1402. doi:10.1016/S0191-8869(03)00236-8

Brinkley, C. A., Schmitt, W. A., Smith, S. S., & Newman, J. P. (2001). Construct validation of a self-report psychopathy scale: Does Levenson's self-report psychopathy scale measure the same constructs as Hare's psychopathy checklist-revised? *Personality and Individual Differences, 31*, 1021-1038. doi:10.1016/S0191-8869(00)00178-1

Buss, D. M. (1988). The evolution of human intrasexual competition. *Journal of Personality and Social Psychology, 54*, 616-628. doi:10.1037/0022-3514.54.4.616

Buss, D. M., & Schmitt, D. P. (1993). Sexual strategies theory: An evolutionary perspective on human mating. *Psychological Review, 2*, 204-232. doi:10.1037/0033-295X.100.2.204

Cale, E. M., & Lilienfeld, S. O. (2006). Psychopathy factors and risk for aggressive behavior: A test of the "threatened egotism" hypothesis. *Law and Human Behavior, 30*, 51-74. doi:10.1007/s10979-006-9004-5

Carver, C. S., & White, T. L. (1994). Behavioral inhibition, Behavioral activation, and affective responses to impending reward and punishment: the BIS/BAS scales. *Journal of Personality and Social Psychology, 67*, 319-333. doi:10.1037/0022-3514.67.2.319

Cleckley, H. (1955). *The mask of sanity*. (3rd ed.). St. Louis, MO: Mosby. (Original work published in 1941).

Cleckley, H. (1988). *The mask of sanity*. (5th ed.). St. Louis, MO: Mosby. (Original work published in 1941).

Cooke, D. J., & Michie, C. (2001). Refining the construct of psychopathy: towards a hierarchical model. *Psychological Assessment, 13*, 171-188. doi:10.1037//1040-3590.13.2.171

Cooke, D. J., Michie, C., & Skeem, J. (2007). Understanding the structure of the Psychopathy Checklist – Revised: an exploration of methodological confusion. *British Journal of Psychiatry,* 39-50. doi:10.1192/bjp.190.5.s39

De Vries, R. E., Lee, K., & Ashton, M. C. (2008). The Dutch HEXACO Personality Inventory: Psychometric properties, self-other agreement, and relations with psychopathy among low and high acquaintanceship dyads. *Journal of Personality Assessment, 90*, 142-151. doi:10.1080/00223890701845195

Diener, E., Wolsic, B., & Fujita, F. (1995). Physical attractiveness and subjective well-being. *Journal of Personality and Social Psychology*, 69, 120-129. doi:10.1037/0022-3514.69.1.120

Dion, K. L., Dion, K. K., & Keelan, J. P. (1990). Appearance anxiety as a dimension of social-evaluative anxiety: Exploring the ugly duckling syndrome. *Contemporary Social Psychology, 14*(4), 220-224.

Dolan, M., & Fullam, R. (2006). Face affect recognition deficits in personality-disordered offenders: association with psychopathy. *Psychological Medicine, 36*, 1563-1569. doi:10.1017/S0033291706008634

Dolan, M., & Völlm, B. (2009). Antisocial personality disorder and psychopathy in women: A literature review on the reliability and validity of assessment instruments. *International Journal of Law and Psychiatry, 32*, 2-9. doi:10.1016/j.ijlp.2008.11.002

Edens, J. F., Poythress, N. G., Lilienfeld, S. O., Patrick, C. J., & Test, A. (2008). Further evidence of the divergent correlates of the psychopathic personality inventory factors: Prediction of institutional misconduct among male prisoners. *Psychological Assessment, 20*, 86-91. doi:10.1037/1040-3590.20.1.86

Egan, V., & Angus, S. (2004). Is social dominance a sex-specific strategy for infidelity? *Personality and Individual Differences, 36*, 575-586. doi:10.1016/S0191-8869(03)00116-8

Falkenbach, D., Poythress, N., & Creevy, C. (2008). The exploration of subclinical psychopathic subtypes and the relationship with types of aggression. *Personality and Individual Differences, 44*, 821-832. doi:10.1016/j.paid.2007.10.012

Falkenbach, D., Poythress, N., Falki, M., & Manchak, S. (2007). Reliability and validity of two self-report measures of psychopathy. *Assessment, 14*, 341-350. doi:10.1177/1073191107305612

Farrington, D. P. (2005). The importance of child and adolescent psychopathy. *Journal of Abnormal Child Psychology, 33*, 489-497. doi:10.1007/s10802-005-5729-8

Gabriel, M. T., Critelli, J. W., & Ee, J. S. (1994). Narcissistic illusions in self-evaluations of intelligence and attractiveness. *Journal of Personality, 62*, 143-155. doi:10.1111/j.1467-6494.1994.tb00798.x

George, D., & Mallery, P. (1999). *SPSS for Windows step by step: A simple guide and reference*. Boston: Allyn & Bacon.

Glass, S. J., & Newman, J. P. (2006). Recognition of facial affect in psychopathic offenders. *Journal of Abnormal Psychology, 115,* 815-820. doi:10.1037/0021-843X.115.4.815

Goodson, P., Buhi, E. R., & Dunsmore, S. C. (2006). Self-esteem and adolescent sexual behaviors, attitudes, and intentions: A systematic review. *Journal of Adolescent Health, 38*, 310-319. doi:10.1016/j.jadohealth.2005.05.026

Gray, J. A. (1987). The neuropsychology of emotion and personality. In S. M. Stahl, S. D. Iverson, & E. C. Goodman (Eds.), *Cognitive neurochemistry* (pp. 171-190). Oxford, UK: Oxford University Press.

Guay, J., Ruscio, J., Knight, R. A., & Hare, R. D. (2007). A taxometric analysis of the latent structure of psychopathy: Evidence for dimensionality. *Journal of Abnormal Psychology, 116*, 701-716. doi:10.1037/0021-843X.116.4.701

Habel, U., Kühn, E., Salloum, J. B., Devos, H., & Schneider, F. (2002). Emotional processing in psychopathic personality. *Aggressive Behavior, 28*, 394-400. doi:10.1002/ab.80015

Hallsworth, L., Wade, T., & Tiggemann, M. (2005). Individual differences in male body image: An examination of self-objectification in recreational bodybuilders. *British Journal of Health Psychology, 10,* 453-465. doi:10.1348/135910705X26966

Hare, R. D. (1980). A research scale for the assessment of psychopathy in criminal populations. *Personality and Individual Differences, 1*, 111-119. doi:10.1016/0191-8869(80)90028-8

Hare, R. D. (1982). Psychopathy and physiological activity during anticipation of an aversive stimulus in a distraction paradigm. *Psychophysiology, 19*, 266-271. doi:10.1111/j.1469-8986

Hare, R. D. (1985). Comparison of procedures for the assessment of psychopathy. *Journal of Consulting and Clinical Psychology, 53*, 7-16. doi:10.1037/0022-006X.53.1.7

Hare, R. D. (1991). *The Hare Psychopathy Checklist – Revised.* Toronto: Multi-Health Systems.

Hare, R. D. (2003). *The Psychopathy Checklist – Revised (2nd Ed.).* Toronto: Multi-Health Systems.

Hare, R. D., Harpur, T. J., & Hemphill, J. D. (1989). *Scoring pamphlet for the Self-Report Psychopathy scale: SRP-II.* Unpublished document, Simon Fraser University, Vancouver.

Hare, R. D., & Neumann, C. S. (2010). The role of antisociality in the psychopathy construct: Comment on Skeem and Cooke (2010). *Psychological Assessment, 22*, 446-454. doi: 10.1037/a0013635

Harpur, T. J., Hakstian, A., & Hare, R. D. (1988). Factor structure of the Psychopathy Checklist. *Journal of Consulting and Clinical Psychology, 56*, 741-747. doi:10.1037/0022-006X.56.5.741

Harpur, T. J., Hare, R. D., & Hakstian, A. R. (1989). Two-factor conceptualization of psychopathy: construct validity and assessment implications. *Psychological Assessment, 1*, 6-17. doi:10.1037/1040-3590.1.1.6

Harris, G. T., Rice, M. E., & Cormier, C. A. (1991). Psychopathy and violent recidivism. *Law and Human Behavior, 15*, 625-637. doi:10.1007/BF01065856

Harris, G. T., Rice, M. E., Hilton, N. Z., Lalumière, M. L., & Quinsey, V. L. (2007). Coercive and precocious sexuality as a fundamental aspect of psychopathy. *Journal of Personality Disorders, 21*(1), 1-27. doi:10.1521/pedi.2007.21.1.1

Harris, G. T., Rice, M. E., & Quinsey, V. L. (1994). Psychopathy as a taxon: evidence that psychopaths are a discrete class. *Journal of Consulting and Clinical Psychology, 62*, 387-397. doi:10.1037/0022-006X.62.2.387

Harris, G. T., Skilling, T., & Rice, M. E. (2001). The construct of psychopathy. *Crime and Justice, 28*, 197-264.

Hart, S. D., & Hare, R. D. (1996). Psychopathy and antisocial personality disorder. *Current Opinion in Psychiatry, 9*, 129-132. doi:10.1097/00001504-199603000-00007

Hastings, M. E., Tangney, J. P., & Stuewig, J. (2008). Psychopathy and identification of facial expressions of emotion. *Personality and Individual Differences, 44*, 1474-1483. doi:10.1016/j.paid.2008.01.004

Hemphill, J. F., Hare, R. D., & Wong, S. (1998). Psychopathy and recidivism: a review. *Legal and Criminological Psychology, 3*(1), 139-170.

Hervé, H. (2007). Psychopathy across the ages: A history of the Hare psychopath. In H. Hervé and J. C. Yuille (Eds.) *The Psychopath* (pp. 31-55). Mahwah, NJ: Lawrence Erlbaum.

Hicks, B. M., Markon, K. E., Patrick, C. J., Krueger, R. F., & Newman, J. P. (2004). Identifying psychopathy subtypes on the basis of personality structure. *Psychological Assessment, 16*, 276-288. doi:10.1037/1040-3590.16.3.276John, O. P., Donahue, E. M., & Kentle, R. L. (1991). *The Big Five Inventory—Versions 4a and 54.* Berkeley, CA: University of California, Berkeley, Institute of Personality and Social Research.

Karpman, B. (1941). On the need of separating psychopathy into two distinct clinical types: the symptomatic and the idiopathic. *Journal of Criminal Psychopathology, 3*, 112-137.

Karpman, B. (1948). The myth of the psychopathic personality. *American Journal of Psychiatry, 104*, 523-534. doi:10.1176/appi.ajp.104.9.523

Lalumière, M. L., & Quinsey, V. L. (1996). Sexual Deviance, antisociality, mating effort, and the use of sexually coercive behaviors. *Personality and Individual Differences, 21*(1), 33-48. doi:10.1016/0191-8869(96)00059-1

Lee, K., & Ashton, M. C. (2004). Psychometric properties of the HEXACO Personality Inventory. *Multivariate Behavioral Research, 39*, 329-358. doi:10.1207/s15327906mbr3902_8

Lee, K., & Ashton, M. C. (2005). Psychopathy, Machiavellianism, and Narcissism in the Five-Factor Model and the HEXACO model of personality structure. *Personality and Individual Differences, 38*, 1571-1582. doi:10.1016/j.paid.2004.09.016

Lee, K., Ashton, M. C., Pozzebon, J. A., Visser, B. A., Bourdage, J. S., & Ogunfowora, B. (2009). Similarity and assumed similarity of personality reports of well-acquainted persons. *Journal of Personality and Social Psychology, 96,* 460-472. doi:10.1037/a0014059

Leistico, A. R., Salekin, R. T., DeCoster, J., & Rogers, R. (2008). A large-scale meta-analysis relating the Hare measures of psychopathy to antisocial conduct. *Law and Human Behavior, 32*, 28-45. doi:10.1007/s10979-007-9096-6

Levenson, M. R., Kiehl, K. A., Fitzpatrick, C. M. (1995). Assessing psychopathic attributes in a noninstitutionalized population. *Journal of Personality and Social Psychology, 68*, 151-158. doi:10.1207/s15327752jpa6603_3

Lilienfeld, S. O., & Andrews, B. P. (1996). Development and preliminary validation of a self-report measure of psychopathic personality traits in noncriminal populations. *Journal of Personality Assessment, 66*, 488-524. doi:10.1207/s15327752jpa6603_3

Lilienfeld, S. O., & Fowler, K. A. (2006). The self-report assessment of psychopathy: Problems, pitfalls, and promises. In C. J. Patrick (Ed.), *Handbook of psychopathy* (pp. 107-132). New York: Guilford.

Lilienfeld, S. O., & Widows, M. (2005). *Professional manual for the Psychopathic Personality Inventory-Revised (PPI-R).* Lutz, Florida: Psychological Assessment Resources.

Lykken, D. T. (1957). A study of anxiety in the sociopathic personality. *Journal of Abnormal and Social Psychology, 55*,6-10. doi: 10.1037/11397-012

Lykken, D. T. (1995*). The antisocial personalities*. Mahwah, NJ: Erlbaum.

Lykken, D. T. (1996). Psychopathy, sociopathy, and crime. *Society, 34*, 29-38.

Lykken, D. T. (2006). Psychopathic personality: The scope of the problem. In C. J. Patrick (Ed.), *Handbook of psychopathy* (pp. 3-13). New York, NY: Guilford.

Lynam, D. R., Whiteside, S., & Jones, S. (1999). Self-reported psychopathy: A validation study. *Journal of Personality Assessment, 73*(1), 110-132.

Malterer, M. B., Glass, S. J., & Newman, J. P. (2008). Psychopathy and trait emotional intelligence. *Personality and Individual Differences, 44*, 733-743. doi:10.1016/j.paid.2007.10.007

Mayer, J. D., Salovey, P., & Caruso, D. R. (2002). *Manual for the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT).* Toronto: Multi-Health Systems.

Mayer, J. D., Salovey, P., & Caruso, D. R. (2008). Emotional Intelligence: New ability or eclectic traits? *American Psychologist, 63*, 503-517. doi:10.1037/0003-066X.63.6.503

McCrae, R. R., & Costa, P. T., Jr. (1990) *Personality in adulthood.* New York: Guilford.

McHoskey, J. W., Worzel, W., & Szyarto, C. (1998). Machiavellianism and psychopathy. *Journal of Personality and Social Psychology, 74*, 192-210. doi:10.1037/0022-3514.74.1.192

McKinley, N. M., & Hyde, J. S. (1996). The Objectified Body Consciousness Scale: Development and validation. *Psychology of Women Quarterly, 20*, 181-215. doi:10.1111/j.1471-6402.1996.tb00467.x

Miller, J. D., Lynam, D. R., Widiger, T. A., & Leukefeld, C. (2001). Personality disorders as extreme variants of common personality dimensions: Can the five-factor model adequately represent psychopathy? *Journal of Personality, 69*, 253-276. doi:10.1111/1467-6494.00144

Montagne, B., van Honk, J., Kessels, R., Frigerio, E., Burt, M., & van Zandvoort, M., ...de Haan, E. H. F. (2005). Reduced efficiency in recognising fear in subjects scoring high on psychopathic personality characteristics. *Personality and Individual Differences, 38*, 5-11. doi:10.1016/j.paid.2004.02.008

Nathanson, C., Paulhus, D.L., & Williams, K.M. (2006). Predictors of a behavioral measure of scholastic cheating: personality and competence but not demographics. *Contemporary Educational Psychology, 31*, 97-122. doi:10.1016/j.cedpsych.2005.03.001

Neumann, C. S., Hare, R. D., & Newman, J. P. (2007). The super-ordinate nature of the Psychopathy Checklist-Revised. *Journal of Personality Disorders, 21*, 102-117. doi:10.1521/pedi.2007.21.2.102

Newman, J. P., Kosson, D. S., & Patterson, C. M. (1992). Delay of gratification in psychopathic and nonpsychopathic offenders. *Journal of Abnormal Psychology, 101*, 630-636. doi:10.1037/0021-843X.101.4.630

Newman, J. P., MacCoon, D. G., Vaughn, L. J., & Sadeh, N. (2005). Validating a distinction between primary and secondary psychopathy with measures of Gray's BIS and BAS constructs. *Journal of Abnormal Behavior, 114*, 319-323. doi:10.1037/0021-843X.114.2.319

Newman, J. P., & Malterer, M. B. (2009). Problems with the BIS/BAS scales or Lykken's model of primary psychopathy? A reply to Poythress et al. (2008). *Journal of Personality and Individual Differences, 46*, 673-677. doi:10.1016/j.paid.2009.01.037

Newman, J. P., & Schmitt, W. A. (1998). Passive avoidance in psychopathic offenders: A replication and extension. *Journal of Abnormal Psychology, 107*, 527-532. doi:10.1037/0021-843X.107.3.527

Partridge (1930). Current conceptions of psychopathic personality. *American Journal of Psychiatry, 10*, 53-99. doi:10.1176/appi.ajp.87.1.53

Patrick, C. J., Cuthbert, B. N., & Lang, P. J. (1994). Emotion in the criminal psychopath: Fear image processing. *Journal of Abnormal Psychology, 103*, 523-524. doi:10.1037/0021-843X.103.3.523

Patrick, C. J., Zempolich, K. A., & Levenston, G. K. (1997). Emotionality and violent behavior in psychopaths: A biosocial analysis. In A. Raine, P. A. Brennan, D. P. Farrington, & S. A. Mednick (Eds.) *Biosocial bases of violence. NATO ADI series: Series A: Life sciences*, vol. 292 (pp. 145-161).

Paulhus, D. L., & John, O. P. (1998). Egoistic and moralistic biases in self-perception. *Journal of Personality, 66*, 1025-1060. doi:10.1111/1467-6494.00041

Paulhus, D. L., Neumann, C. F., & Hare, R. D. (in press). *Manual for the Self-Report Psychopathy Scale (SRP-III)*. Toronto, Ontario, Canada: Multi-Health Systems.

Paulhus, D. L., & Williams, K. M. (2002). The dark triad of personality: Narcissism, Machiavellianism, and psychopathy. *Journal of Research in Personality, 36*, 556-563. doi:10.1016/S0092-6566(02)00505-6

Petrides, K. V., & Furnham, A. (2001). Trait Emotional Intelligence: Psychometric investigation with reference to established trait taxonomies. *European Journal of Personality, 15*, 425-448. doi:10.1002/per.416

Petrides, K. V., & Furnham, A. (2003). Trait Emotional Intelligence: Behavioural validation in two studies of emotion recognition and reactivity to mood induction. *European Journal of Personality, 17*, 39–57. doi:10.1002/per.466

Pinel, P. (1806). *A treatise on insanity*. London, UK: Strand.

Poythress , N. G., Edens, J. F., Landfield, K., Lilienfeld, S. O., Skeem, J. L., & Douglas, K. S. (2008). A critique of Carver and White's (1994) behavioral inhibition scale (BIS) for investigating Lykken's (1995) theory of primary psychopathy. *Personality and Individual Differences, 45*, 269-275. doi:10.1016/j.paid.2008.04.014

Poythress , N. G., Edens, J. F., & Lilienfeld, S. O. (1998). Criterion-related validity of the Psychopathic Personality Inventory in a prison sample. *Psychological Assessment, 10*, 426-430. doi:10.1037/1040-3590.10.4.426

Poythress, N. G., Lilienfeld, S. O., Skeem, J. L., Douglas, K. S., Edens, J. F., Epstein, M., & Patrick, C. J. (2010). Using the PCL-R to help estimate the validity of two self-report measures of psychopathy with offenders. *Assessment, 17*, 206-219. doi:10.1177/1073191109351715

Prichard, J. C. (1835). A treatise on insanity and other disorders affecting the mind. London, UK: Sherwood, Gilbert, & Piper.

Ray, J. V., Poythress, N. G., Weir, J. M., & Rickelm, A. (2009). Relationships between psychopathy and impulsivity in the domain of self-reported personality features. *Personality and Individual Differences, 46*, 83-87. doi:10.1016/j.paid.2008.09.005

Rice, M., Harris, G., & Cormier, C. (1992). An evaluation of a maximum security therapeutic community for psychopaths and other mentally disordered offenders. *Law and Human Behavior, 16*, 399-412. doi:10.1007/BF02352266

Richell, R., Mitchell, D., Newman, C., Leonard, A., Baron-Cohen, S., & Blair, R. (2003). Theory of mind and psychopathy: Can psychopathic individuals read the "language of the eyes"? *Neuropsychologia, 41*, 523-526. doi:10.1016/S0028-3932(02)00175-6

Rogers, R., Vitacco, M. J., Jackson, R. L., Martin, M., Collins, M., & Sewell, K. W. (2002). Faking psychopathy? An examination of response styles with antisocial youth. *Journal of Personality Assessment, 78*, 31-46. doi:10.1207/S15327752JPA7801_03

Rosenberg, M. (1965). Society and the adolescent self-image. Princeton, NJ: Princeton University Press.

Ray, J. V., Poythress, N. G., Weir, J. M., Rickelm, A. (2009). Relationships between psychopathy and impulsivity in the domain of self-reported personality features. *Personality and Individual Differences, 46*, 83-87. doi:10.1016/j.paid.2008.09.005

Ross, S. R., Benning, S. D., Patrick, C. J., Thompson, A., & Thurston, A. (2009). Criterion-related validity and relationship to the BIS/BAS and five-factor models of personality. *Assessment, 16*, 71-87. doi:10.1177/1073191108322207

Ross, S. R., Moltó, J., Poy, R., Segarra, P., Pastor, M. C., & Montanés, S. (2007). Gray's model and psychopathy: BIS but not BAS differentiates primary from secondary psychopathy in noninstitutionalized young adults. *Personality and Individual Differences, 43*, 1644-1655. doi:10.1016/j.paid.2007.04.020

Ross, S. R., & Rausch, M. K. (2001). Psychopathic attributes and achievement dispositions in a college sample. *Personality and Individual Differences, 30*, 471-480. doi:10.1016/S0191-8869(00)00038-6

Rush, B. (1812). *Medical inquiries and observations upon the diseases of the mind.* Philadelphia: John Grigg.

Salekin, R. T., Rogers, R., & Sewell, K. W. (1996). A review and meta-analysis of the Psychopathy Checklist and Psychopathy Checklist-Revised: Predictive validity of dangerousness. *Clinical Psychology: Science and Practice, 3,* 203-215. doi:10.1111/j.1468-2850.1996.tb00071.x

Salekin, R. T., Rogers, R., & Sewell, K. W. (1997). Construct validity of psychopathy in a female offender sample: A multitrait-multimethod evaluation. *Journal of Abnormal Psychology, 106,* 576-585. doi:10.1037/0021-843X.106.4.576

Salekin, R. T., Trobst, K. K., & Krioukova, M. (2001). Construct validity of psychopathy in a community sample: A nomological net approach. *Journal of Personality Disorders, 15*, 425-441. doi:10.1521/pedi.15.5.425.19196

Salovey, P., & Mayer, J.D. (1990). Emotional intelligence. *Imagination, Cognition, and Personality, 9*, 185-211. doi:10.2190/DUGG-P24E-52WK-6CDG

Salovey, P., Mayer, J. D., Goldman, S. L., Turvey, C., & Palfai, T. P. (1995). Emotional attention, clarity and repair: Exploring emotional intelligence using the trait meta-mood scale. In J. Pennebaker (Ed.). *Emotion, disclosure and health* (pp. 125-154). Washington: American Psychological Association.

Schmitt, W. A., & Newman, J. P. (1999). Are all psychopathic individuals low-anxious? *Journal of Abnormal Psychology, 108*, 353-358. doi:10.1037/0021-843X.108.2.353

Schulte, M. J., Ree, M. J., & Carretta, T. R. (2004). Emotional intelligence: Not much more than *g* and personality. *Personality and Individual Differences, 37*, 1059-1068. doi:10.1016/j.paid.2003.11.014

Seto, M. C., Khattar, N. A., Lalumière, M. L., & Quinsey, V. L. (1997). Deception and sexual strategy in psychopathy. *Personality and Individual Differences, 22*, 301-307. doi:10.1016/S0191-8869(96)00212-7

Skeem, J. L., & Cooke, D. J. (2010). Is criminal behavior a central component of psychopathy? Conceptual directions for resolving the debate. *Psychological Assessment, 22*, 433-445. doi: 10.1037/a0008512

Skilling, T. A., Quinsey, V. L., & Craig, W. M. (2001). Evidence of a taxon underlying serious antisocial behavior in boys. *Criminal Justice and Behavior, 28*, 450-470. doi:10.1177/009385480102800404

Smith, S. S., & Newman, J. P. (1990). Alcohol and drug abuse-dependence disorders in psychopathic and nonpsychopathic criminal offenders. *Journal of Abnormal Psychology, 111*, 124-133. doi:10.1037/0021-843X.99.4.430

Swogger, M. T., & Kosson, D. S. (2007). Identifying subtypes of criminal psychopaths: A replication and extension. *Criminal Justice and Behavior, 34*, 953-970. doi:10.1177/0093854807300758

Torrubia, R., Ávila, C., Moltó, J., & Caseras, X. (2001). The Sensitivity to Punishment and Sensitivity to Reward Questionnaire (SPSRQ) as a measure of Gray's anxiety and impulsivity dimensions. *Personality and Individual Differences, 31*, 837-862. doi:10.1016/S0191-8869(00)00183-5

Visser, B. A., Ashton, M. C., & Pozzebon, J. A. (2010). Is low anxiety part of the psychopathy construct? Manuscript submitted for publication.

Visser, B. A., Bay, D., Cook, G., & Myburgh, J. (2010). Psychopathic and antisocial, but not emotionally intelligent. *Personality and Individual Differences, 48*, 644-648. doi:10.1016/j.paid.2010.01.003

Visser, B. A., Pozzebon, J. A., Bogaert, A. F., & Ashton, M. C. (2010). Psychopathy, sexual behavior, and esteem: It's different for girls. *Personality and Individual Differences, 48,* 833-838. doi:10.1016/j.paid.2010.02.008

Vidal, S., Skeem, J., & Camp, J. (2010). Emotional Intelligence: Painting different paths for low-anxious and high-anxious psychopathic variants. *Law and Human Behavior, 34*, 150-163. doi:10.1007/s10979-009-9175-y

Vitale, J. E., & Newman, J. P. (2001). Response perseveration in psychopathic women. *Journal of Abnormal Psychology, 110*, 644-647. doi:10.1037/0021-843X.110.4.644

Vitacco, M. J., Neumann, C. S., & Jackson, R. L. (2005). Testing a four-factor model of psychopathy and its association with ethnicity, gender, intelligence, and violence. *Journal of Consulting and Clinical Psychology, 73*, 466-476. doi:10.1037/0022-006X.73.3.466

Wallace, J. F., Malterer, M. B., & Newman, J. P. (2009). Mapping Gray's BIS and BAS constructs onto Factor 1 and Factor 2 of Hare's Psychopathy Checklist-Revised. *Personality and Individual Differences, 47*, 812-816. doi:10.1016/j.paid.2009.06.019

Widiger, T. A., & Lynam, D. R. (1998). Psychopathy as a variant of common personality traits: implications for diagnosis, etiology, and pathology. In T. Millon (Ed.), *Psychopathy: Antisocial, criminal, and violent behavior* (pp. 171-187). New York: Guilford.

Widom, C. S. (1976). Interpersonal conflict and cooperation in psychopaths. *Journal of Abnormal Psychology, 85*, 330-334. doi:10.1037/0021-843X.85.3.330

Williams, K. M., Nathanson, C., & Paulhus, D. L. (2010). Identifying and profiling scholastic cheaters: Their personality, cognitive ability, and motivation. Journal of Experimental Psychology: Applied, 16, 293-307. doi: 10.1037/a0020773

Williams, K. M., & Paulhus, D. L. (2004). Factor structure of the Self-Report Psychopathy Scale (SRP-II) in non-forensic samples. *Personality and Individual Differences 37*, 765-778. doi:10.1016/j.paid.2003.11.004

Williams, K. M., & Paulhus, D. L. (2005). *Comparing the validity of oblique versus orthogonal factors of subclinical psychopathy.* Poster presented at the 6th annual meeting of the Society for Personality and Social Psychology, New Orleans, LA.

Williams, K. M., Paulhus, D. L., & Hare, R. D. (2007). Capturing the four-factor structure of psychopathy in college students via self-report. *Journal of Personality Assessment, 88,* 205-219. doi:10.1080/00223890701268074

Woodworth, M., & Porter, S. (2002). In cold blood: Characteristics of criminal homicides as a function of psychopathy. *Journal of Abnormal Psychology, 111*, 436-445. doi:10.1037/0021-843X.111.3.436

APPENDIX A

DATE: September 17, 2007

FROM: Linda Rose-Krasnor, Acting Chair
Research Ethics Board (REB)

TO: Mike Ashton, Psychology
Beth Visser, Julie Pozzebon

FILE: 07-053 ASHTON et al

TITLE: Personality, Interests, and Academic Preferences

The Brock University Research Ethics Board has reviewed the above research proposal.

DECISION: Accepted as is.

This project has received ethics clearance for the period of September 17, 2007 to December 30, 2008 subject to full REB ratification at the Research Ethics Board's next scheduled meeting. The clearance period may be extended upon request.
The study may now proceed.

Please note that the Research Ethics Board (REB) requires that you adhere to the protocol as last reviewed and cleared by the REB. During the course of research no deviations from, or changes to, the protocol, recruitment, or consent form may be initiated without prior written clearance from the REB. The Board must provide clearance for any modifications before they can be implemented. If you wish to modify your research project, please refer to http://www.brocku.ca/researchservices/forms to complete the appropriate form **Revision or Modification to an Ongoing Application.**

Adverse or unexpected events must be reported to the REB as soon as possible with an indication of how these events affect, in the view of the Principal Investigator, the safety of the participants and the continuation of the protocol.

If research participants are in the care of a health facility, at a school, or other institution or community organization, it is the responsibility of the Principal Investigator to ensure that the ethical guidelines and clearance of those facilities or institutions are obtained and filed with the REB prior to the initiation of any research protocols.

The Tri-Council Policy Statement requires that ongoing research be monitored. A Final Report is required for all projects upon completion of the project. Researchers with projects lasting more than one year are required to submit a Continuing Review Report annually. The Office of Research Services will contact you when this form ***Continuing Review/Final Report*** is required.

Please quote your REB file number on all future correspondence.

LRK/bb

Brenda Brewster, Research Ethics Assistant
Office of Research Ethics, MC D250A
Brock University
Office of Research Services

APPENDIX B

Project Title: **Personality, Interests, and Academic Preferences**
September 24, 2007

Principal Investigators: M. C. Ashton (Professor)
J. A. Pozzebon & B. A. Visser (Ph. D. candidates)
Department of Psychology, Brock University

Faculty Supervisor: M. C. Ashton
Department of Psychology, Brock University
e-mail: ashtonlab@brocku.ca

INVITATION
You are invited to participate in a study that involves research. The purpose of this study is to learn how people's characteristics—their personalities, interests, and abilities—are related to each other, and to learn how those characteristics are related to one's preferences for different academic subjects.

WHAT'S INVOLVED
As a participant, you will be asked to complete a series of questionnaires that assess your personality characteristics, your interests, your cognitive skills, and your academic preferences. Participation will take approximately 1 hour and 45 minutes of your time. In addition to completing the questionnaires, your participation also involves giving your consent to allow the researchers to compare your responses with your future academic records at Brock (specifically, your course selections and grades).

POTENTIAL BENEFITS AND RISKS
Benefits of participation include either (a) the payment of $20 or (b) proof of two hours' research participation for credit in any one course that offers such credit, as well as the experience of taking part in psychological research. There are no known or anticipated risks associated with participation in this study, other than mild boredom or mild discomfort in answering a long series of questions about one's own characteristics. There is some loss of privacy that your grades and course selections will be accessed by the researchers, but please be assured that these data are used for research purposes only and will be kept entirely confidential.

Please indicate your choice between (a) payment and (b) proof of two hours' research participation for course credit by checking ONE of the two spaces below:

____ **I wish to receive $20 for participation OR**
____ **I wish to use this form for course research participation credit**

CONFIDENTIALITY
All information you provide is considered confidential. Because our interest is in the average responses of the entire group of participants, neither you nor your responses will be identified individually in any way in written reports of this research. Data collected during this study will be stored in secure locations, and access will be restricted to the principal investigators and possibly a small number of future qualified researchers. Note that your responses will NOT be made available to Brock University itself, so there will

be no university records of your responses. Also, your name will not be kept in the same data file with your questionnaire responses; instead, your name will only be kept in a separate file.

VOLUNTARY PARTICIPATION

Participation in this study is voluntary. If you wish, you may decline to answer any questions or participate in any component of the study. Further, you may decide to withdraw from this study at any time without any penalty or loss of benefits to which you are entitled. Note that the payment or research participation verification will only be given for completing the entire study (i.e., without early withdrawal). If at some future date, you decide to withdraw your permission for the instructors to obtain access to your academic records, you may do so by contacting the researchers, without losing your payment or proof of participation.

PUBLICATION OF RESULTS

Results of this study may be published in professional journals and presented at conferences. Feedback about this study will be available by May 2009 by contacting the investigators at the e-mail address ashtonlab@brocku.ca

CONTACT INFORMATION AND ETHICS CLEARANCE

If you have any questions about this study or require further information, please contact Dr. Michael Ashton, Faculty Supervisor, using the contact information provided above. This study has been reviewed and received ethics clearance through the Research Ethics Board at Brock University (07-053). If you have any comments or concerns about your rights as a research participant, please contact the Research Ethics Office at (905) 688-5550 Ext. 3035, reb@brocku.ca. Thank you for your assistance in this project. Please keep a copy of this form for your records.

CONSENT FORM

I agree to participate in this study described above, by completing the questionnaires and allowing the researchers to have access to my future course selections and course grades at Brock. I have made this decision based on the information I have read in the Information-Consent Letter. I have had the opportunity to receive any additional details I wanted about the study and understand that I may ask questions in the future. I understand that I may withdraw this consent at any time.

Name (printed): _____ Signature: _____

Date: _____, 2007

FUTURE STUDIES

Would you like to be contacted about taking part in follow-up surveys which may be conducted periodically over the next several years or more? If you indicate interest in participating in these follow-up surveys, then whenever a new study similar to the present

one is being performed, you will be contacted by us via e-mail and will be given an opportunity to participate in the study.

What will be involved in participating in this research? If you agree to be contacted about future studies, we will periodically contact you via e-mail and ask you to complete various paid follow-up surveys. Like any other research participation, you are under no obligation to participate in the follow-up survey, and you can terminate your participation at any time without any reason. That is, agreeing today that you would like to be contacted does *NOT* mean that you must complete all the follow-up surveys that follow.

If you think that you might be interested in participating in future surveys, please provide your name and an email address that you check regularly and that is likely to remain stable over the next few years.
Thank you for considering ongoing participation in our research program.

Name (printed): _____

E-mail address: _____ (please provide an address that you check regularly and that is likely to remain stable over the next few years).

APPENDIX C

Sensitivity to Reward and Sensitivity to Punishment Questionnaire (SPSRQ)

Using the scantron sheet, please rate the degree to which you agree with the following statements about you, using the following scale.

1	2	3	4	5
Disagree Strongly	**Disagree**	**Neutral**	**Agree**	**Agree Strongly**

1. Do you often refrain from doing something because you are afraid of it being illegal?
2. Does the good prospect of obtaining money motivate you strongly to do some things?
3. Do you prefer not to ask for something when you are not sure you will obtain it?
4. Are you frequently encouraged to act by the possibility of being valued in your work, in your studies, with your friends or with your family?
5. Are you often afraid of new or unexpected situations?
6. Do you often meet people that you find physically attractive?
7. Is it difficult for you to telephone someone you do not know?
8. Do you like to take some drugs because of the pleasure you get from them?
9. Do you often renounce your rights when you know you can avoid a quarrel with a person or an organization?
10. Do you often do things to be praised?
11. As a child, were you troubled by punishments at home or in school?
12. Do you like being the centre of attention at a party or a social meeting?
13. In tasks that you are not prepared for, do you attach great importance to the possibility of failure?
14. Do you spend a lot of your time on obtaining a good image?
15. Are you easily discouraged in difficult situations?
16. Do you need people to show their affection for you all the time?
17. Are you a shy person?
18. When you are in a group, do you try to make your opinions the most intelligent or the funniest?
19. Whenever possible, do you avoid demonstrating your skills for fear of being embarrassed?
20. Do you often take the opportunity to pick up people you find attractive?

1	2	3	4	5
Disagree Strongly	**Disagree**	**Neutral**	**Agree**	**Agree Strongly**

21. When you are with a group, do you have difficulties selecting a good topic to talk about?
22. As a child, did you do a lot of things to get people's approval?
23. Is it often difficult for you to fall asleep when you think about things you have done or must do?
24. Does the possibility of social advancement move you to action even if this involves not playing fair?
25. Do you think a lot before complaining in a restaurant if your meal is not well prepared?
26. Do you generally give preference to those activities that imply an immediate gain?
27. Would you be bothered if you had to return to a store when you noticed you were given the wrong change?
28. Do you often have trouble resisting the temptation of doing forbidden things?
29. Whenever you can, do you avoid going to unknown places?
30. Do you like to compete and do everything you can to win?
31. Are you often worried by things that you said or did?
32. Is it easy for you to associate tastes and smells to very pleasant events?
33. Would it be difficult for you to ask your boss for a raise (salary increase)?
34. Are there a large number of objects or sensations that remind you of pleasant events?
35. Do you generally try to avoid speaking in public?
36. When you start to play with a slot machine, is it often difficult for you to stop?
37. Do you, on a regular basis, think that you could do more things if it was not for your insecurity or fear?
38. Do you sometimes do things for quick gains?
39. Comparing yourself to people you know, are you afraid of many things?
40. Does your attention easily stray from your work in the presence of an attractive stranger?
41. Do you often find yourself worrying about things to the extent that performance in intellectual abilities is impaired?
42. Are you interested in money to the point of being able to do risky jobs?
43. Do you often refrain from doing something you like in order not to be rejected or disapproved of by others?
44. Do you like to put competitive ingredients in all of your activities?
45. Generally, do you pay more attention to threats than to pleasant events?
46. Would you like to be a socially powerful person?
47. Do you often refrain from doing something because of your fear of being embarrassed?
48. Do you like displaying your physical abilities even though this may involve danger?

APPENDIX D

SRP-III

COPYRIGHTED INSTRUMENT

APPENDIX E

PPI Short Form

COPYRIGHTED INSTRUMENT

APPENDIX F

Lifestyle Survey

The following behaviors have been known to occur on many campuses. Using the scantron sheet, please rate the frequency that you engage in these behaviours using the following scale.

1 = I have never done this.
2 = I have done this once or twice.
3 = I have done this a few times.
4 = I have done this frequently.

1. I have "punished" someone who didn't do what I wanted by excluding them from my group of friends.
2. I have indicated to someone that I wasn't going to be their friend any more if they didn't do what I wanted them to do.
3. I have spread a rumor about someone, even though I knew it probably wasn't true.
4. I have made fun of (and/or encouraged my friends to make fun of) another person's abilities, attractiveness, or clothing.
5. I have revealed a "secret" to make the person look bad.
6. I have lied about my accomplishments, skills, or qualifications in a job interview.
7. I have lied about my education or work history on my resume.
8. I have lied about myself to attract a potential romantic partner.
9. I have lied to a friend to get him or her to do something for me.
10. I have lied on a government form (e.g., OSAP application, income tax, scholarship application)

11. I have intentionally hit someone in the past two years.
12. I have threatened to hurt someone physically in the past two years.
13. I have gotten into a fight.
14. I have used physical intimidation to get what I want.
15. I have carried a weapon.
16. I have refused to let other students borrow my lecture notes.
17. When asked for help by a classmate, I have tried to reveal as little helpful information as possible.
18. I have withheld information from or misled classmates about study information in order to improve my chances on the exam.
19. I have hidden library materials so other students could not have access to them.
20. I have tried to "sabotage" another student's presentation.

1 = I have never done this.
2 = I have done this once or twice.
3 = I have done this a few times.
4 = I have done this frequently.

21. I have pretended to care about someone because I wanted to have sex with them.
22. I have pretended to be romantically interested in someone because I wanted something from them.
23. I have cheated on a boyfriend or girlfriend.
24. I have had a "one night stand".
25. I have agreed to date someone, knowing that I was waiting for someone "better" to come along.
26. I have cheated on exams
27. I have I have "lifted paragraphs" from others' written works in my term papers (i.e., plagiarized)
28. I have "padded" my timesheets (i.e., added hours for work I didn't do).
29. I have taken money from a friend or family member without their knowledge.
30. I have managed to jump ahead of my place in a line-up.

31. I have vandalized property
32. I have stolen office supplies from my employer
33. I have intentionally left a restaurant without paying for my meal.
34. I have skipped work or school because I just didn't feel like going.
35. I have been late for work or school in the past year.
36. I was smoking prior to the age of 17
37. I have driven without a license.
38. I have sneaked into a movie, bar, or other event without paying the admission or cover charge.
39. I have gotten carried away and not practiced safe sex.
40. I have driven or been a passenger in a vehicle while the driver was "under the influence"

41. I have driven way over the speed limit just for fun.
42. I have failed to wear a seatbelt, as passenger or driver in a motorized vehicle.
43. I have spent way more money than I could afford to on unnecessary items.
44. I have risked more money gambling than I could afford.
45. In the past year, I have gotten so drunk that I vomited or passed out.
46. I have a sport/hobby that other people consider risky or dangerous.

APPENDIX G

DATE: October 2, 2007

FROM: Linda Rose-Krasnor, Acting Chair
Research Ethics Board (REB)

TO: Darlene Bay, Accounting
Gail Cook, Beth Visser, Angela Book

FILE: 07-016 BAY

TITLE: Antecedents and Correlates of Emotional Intelligence in University Settings

The Brock University Research Ethics Board has reviewed the above research proposal.

DECISION: Accepted as clarified.

This project has received ethics clearance for the period of October 2, 2007 to December 31, 2008 subject to full REB ratification at the Research Ethics Board's next scheduled meeting. The clearance period may be extended upon request.
The study may now proceed.

Please note that the Research Ethics Board (REB) requires that you adhere to the protocol as last reviewed and cleared by the REB. During the course of research no deviations from, or changes to, the protocol, recruitment, or consent form may be initiated without prior written clearance from the REB. The Board must provide clearance for any modifications before they can be implemented. If you wish to modify your research project, please refer to http://www.brocku.ca/researchservices/forms to complete the appropriate form **Revision or Modification to an Ongoing Application.**

Adverse or unexpected events must be reported to the REB as soon as possible with an indication of how these events affect, in the view of the Principal Investigator, the safety of the participants and the continuation of the protocol.

If research participants are in the care of a health facility, at a school, or other institution or community organization, it is the responsibility of the Principal Investigator to ensure that the ethical guidelines and clearance of those facilities or institutions are obtained and filed with the REB prior to the initiation of any research protocols.

The Tri-Council Policy Statement requires that ongoing research be monitored. A Final Report is required for all projects upon completion of the project. Researchers with projects lasting more than one year are required to submit a Continuing Review Report annually. The Office of Research Services will contact you when this form ***Continuing Review/Final Report*** is required.

Please quote your REB file number on all future correspondence.

LRK/bb

Brenda Brewster, Research Ethics Assistant
Office of Research Ethics, MC D250A
Brock University
Office of Research Services

APPENDIX H

Antecedents and Correlates:
Emotional Intelligence in University Students

Informed Consent Form
June 18, 2007

This is a research study that is being conducted at Brock University as well as other universities in other countries. The study investigates emotional intelligence (the ability to recognize and appropriately respond to our own emotions and those of others), which is a relatively new concept, and its relationship to another more-well established personality measure. In addition, we are investigating the effect that work experience and education may have on these characteristics.

Since emotional intelligence is said to be very important to success in many fields, it is important to begin to investigate how it may be increased. This study will provide preliminary evidence that can be used to structure university curricula and related programs such as co-op experiences to better support students' development in this area.

You will complete the rest of the study on this website. You can expect to spend about 1 hour. Some subjects will take slightly more time and some slightly less. You will first provide us with some information about you (age, gender, cultural background, level of education, etc.). Next, you will complete an instrument about emotional intelligence, and questions about personality and behavior that relate to emotional intelligence. Finally, we will ask for some details about your work experience. You will be paid $10 on completion of the study.

The only risks to you from this study are those that would normally be expected from spending time working on the computer. You will not be provided personal feedback about your level of emotional intelligence or the results of the other instruments. All information will be kept strictly confidential and any results will be reported only in the aggregate. The information will be maintained in a secure location. As soon as the data gathering process is completed, any identifying information will be removed from the data.

Your participation in this study is completely voluntary. You are free to withdraw at any time. However, payment is only offered to those who complete the study.

This study has been reviewed and has received ethics clearance through the Research Ethics Board (file #07-016). Please contact the Research Ethics Board (reb@brocku.ca or (905) 688-5550, ext. 3035) if you have any questions about your rights as a research subject.

This study is being sponsored in part by the Institute of International Issues in Accounting, Brock University and is being conducted at other universities in other countries for comparison purposes.

Clicking "**Continue**" constitutes your consent to participate in the study. You should ***print*** and keep a copy of this form for your records.

Thank you,

Principal Investigators:
Darlene Bay, Associate Professor, Accounting
Gail Lynn Cook, Associate Professor, Accounting
Beth Visser, Doctoral Candidate, Psychology

APPENDIX I

Please rate the degree to which you agree with the following statements about you. You can be honest because your name will be detached from the answers as soon as they are submitted. ***Please check (or click on) the one answer that BEST describes your agreement with each statement.***

PERSONALITY MEASURES

		Disagree strongly	Disagree	Neutral	Agree	Agree strongly
1.	I "skipped" school when I was 17 years old or younger.	1	2	3	4	5
2.	I share my class notes even when it's unlikely I will need the favour returned.	1	2	3	4	5
3.	I have stolen money or property from an employer.	1	2	3	4	5
4.	I have recently volunteered my time for a good cause.	1	2	3	4	5
5.	I am very careful to return borrowed items (e.g., library books, clothing, CDs) or money on time.	1	2	3	4	5
6.	I help classmates if I have information they need for an assignment or test.	1	2	3	4	5
7.	I have cheated on an exam.	1	2	3	4	5
8.	I apologize or otherwise make it up to someone when I know I'm in the wrong.	1	2	3	4	5
9.	I have knowingly plagiarized.	1	2	3	4	5
10.	When I'm working in a group, I usually end up doing at least my fair share.	1	2	3	4	5
11.	I use illegal drugs.	1	2	3	4	5
12.	I often smooth things over when my friends aren't getting along.	1	2	3	4	5
13.	I have intentionally made a false statement on my income tax return or on a government application.	1	2	3	4	5
14.	If I saw that a classmate had made an error that would result in a loss of marks, I would point it out to that person.	1	2	3	4	5
15.	I have vandalized school or public property.	1	2	3	4	5
16.	I prefer to have many casual sexual partners as opposed to a committed relationship.	1	2	3	4	5
17.	I have tried to hurt someone by spreading rumors or turning their friends against them.	1	2	3	4	5
18.	I am always very careful about driving around cyclists.	1	2	3	4	5

19.	I have driven after consuming enough alcohol to put me over the legal limit.	1	2	3	4	5
20.	I make sure that my resume contains only truthful information.	1	2	3	4	5
21.	I have parked in a handicapped zone (even though I'm not handicapped).	1	2	3	4	5
22.	I have never submitted an essay as my own that was actually written by someone else.	1	2	3	4	5
23.	I have dinged someone's car (e.g., in a parking lot) and not told them about it.	1	2	3	4	5

APPENDIX J

DATE: March 10, 2008

FROM: Michelle McGinn, Chair
Research Ethics Board (REB)

TO: Tony Bogaert, Community Health Sciences; Psychology;
Julie Pozzebon, Beth Visser

FILE: 07-182 BOGAERT

TITLE: Sexual Fantasy & Language

The Brock University Research Ethics Board has reviewed the above research proposal.

DECISION: Accepted as clarified

Please Note: Given the sensitivity of ratings about physical attractiveness, we encourage you to be less ambiguous in your debriefing statement. For example, you could write, "*We are also including a measure of other-perceived attractiveness, which means that we rated you on attractiveness as well. We are expecting that these measures of attractiveness [self-perceived and other-perceived] will correlate with each other, and similarly predict your body type preferences and attitudes. However, it is important to keep in mind that standards of attractiveness differ between people, so what is attractive for one person is not necessarily attractive to another*", as you did in the debriefing form for file # 05-017. Regardless of the explicitness of this statement, you should be prepared to justify your decision to include such ratings and to withhold prior information about those ratings in response to any participant questions. This could very well lead to participants' decisions to withdraw from the study, so all members of the research team will need to be prepared to respond in a sensitive and professional manner. Please submit a final copy of the debriefing form to be used.

This project has received ethics clearance for the period of March 10, 2008 to September 30, 2008 subject to full REB ratification at the Research Ethics Board's next scheduled meeting. The clearance period may be extended upon request. ***The study may now proceed.***

Please note that the Research Ethics Board (REB) requires that you adhere to the protocol as last reviewed and cleared by the REB. During the course of research no deviations from, or changes to, the protocol, recruitment, or consent form may be initiated without prior written clearance from the REB. The Board must provide clearance for any modifications before they can be implemented. If you wish to modify your research project, please refer to http://www.brocku.ca/researchservices/forms to complete the appropriate form Revision or Modification to an Ongoing Application.

Adverse or unexpected events must be reported to the REB as soon as possible with an indication of how these events affect, in the view of the Principal Investigator, the safety of the participants and the continuation of the protocol.

If research participants are in the care of a health facility, at a school, or other institution or community organization, it is the responsibility of the Principal Investigator to ensure that the ethical guidelines and clearance of those facilities or institutions are obtained and filed with the REB prior to the initiation of any research protocols.

The Tri-Council Policy Statement requires that ongoing research be monitored. A Final Report is required for all projects upon completion of the project. Researchers with projects lasting more than one year are required to submit a Continuing Review Report annually. The Office of Research Services will contact you when this form *Continuing Review/Final Report* is required.

Please quote your REB file number on all future correspondence.

MM/kw

Kate Williams
Research Ethics Assistant
Brock University
Office of Research Services

APPENDIX K

Date: March 14, 2008
Project Title: Sexual Fantasy and Language

Principal Investigator/Faculty Supervisor:
Tony Bogaert, Professor
Department of Community Health
Brock University
(905) 688-5550 Ext. 4085
tbogaert@brocku.ca

Student Investigators:
Julie Pozzebon & Beth Visser
PhD Students, Department of Psychology
Brock University
(905) 688-5550 Ext. 5451
Julie.Pozzebon@brocku.ca
Beth.Visser2@brocku.ca

INVITATION
You are invited to participate in a study that involves research. The purpose of this study is primarily to investigate the nature of sexual fantasies in male and female students.

WHAT'S INVOLVED
As a participant, you will be asked to respond to a package of questionnaires which will include items regarding height, weight, ethnicity, body image, attractiveness, personality, and previous sexual experiences. You will also be asked to describe a sexual fantasy, and also to rate other items in terms of how sexually arousing you find them. In addition, we will take measures of physical characteristics, including your finger length and weight. Participation will take approximately 2 hours of your time.

POTENTIAL BENEFITS AND RISKS
Possible benefits of participation include an increased understanding of the nature of fantasy in human sexuality as well as a choice of $20 or credit for course participation. There also may be risks associated with participation in that you might feel somewhat embarrassed or uncomfortable about responding to questions about your sexuality and sexual fantasies.

Please indicate your choice between (a) payment and (b) proof of two hours' research participation for course credit by checking ONE of the two spaces below:

____ **I wish to receive $20 for participation OR**
____ **I wish to use this form for 2 hours of research participation**

CONFIDENTIALITY
Your name will only be associated with this consent form. There will be no way of knowing your responses to the questionnaire or your physical measurements. All consent forms and data will be kept in a locked room at all times and destroyed 5 years after publication. Julie Pozzebon, Beth Visser, Dr. Tony Bogaert, and his research assistants will have access to this data. Note that some data collected today may be used at a later

date to explore other hypotheses. But, as mentioned above, no one will ever be able to know your responses to the questionnaire or your physical measurements, as this will be kept separate from your consent form. Any quotes or information gathered from this research used in writing a report or publishable article will be anonymous.

VOLUNTARY PARTICIPATION

Participation in this study is voluntary. If you wish, you may decline to answer any questions or participate in any component of the study. Further, you may decide to withdraw from this study at any time. Should you do so, monetary compensation will be pro-rated at $10/hour and research participation credit will be pro-rated at 1credit/hour. You cannot withdraw from the study once you have submitted your questionnaire, as the questionnaires are anonymous and your identifying information will not be available.

PUBLICATION OF RESULTS

Results of this study may be published in professional journals and presented at conferences. Feedback about this study will be available from any member of the research team (Tony Bogaert, Julie Pozzebon, or Beth Visser) in September, 2008.

CONTACT INFORMATION AND ETHICS CLEARANCE

If you have any questions about this study or require further information, please contact the student investigators or the faculty supervisor using the contact information provided above. This study is funded by a Social Sciences and Humanities Research Council (SSHRC) grant. This project has been reviewed and received ethics clearance through the Research Ethics Board at Brock University (file #07-182). If you have any comments or concerns about your rights as a research participant, please contact the Research Ethics Office at (905) 688-5550 Ext. 3035, reb@brocku.ca.

Thank you for your assistance in this project. Please keep a copy of this form for your records.

CONSENT FORM

I agree to participate in this study described above. I have made this decision based on the information I have read in the Information-Consent Letter. I have had the opportunity to receive any additional details I wanted about the study and understand that I may ask questions in the future. I understand that I may withdraw this consent at any time.

Name: _____

Signature: _____ Date:_____

RESEARCHER'S SIGNATURE

Signature: _____

APPENDIX L

Appearance Anxiety

Indicate to what extent the statement is true or characteristic of you, using the following response scale:

0	1	2	3	4
Never	**Sometimes**	**Often**	**Very Often**	**Almost Always**

1. I feel nervous about aspects of my physical appearance
2. I worry about how others are evaluating how I look
3. I am comfortable with my appearance
4. I like how I look
5. I would like to change the way I look
6. I am satisfied with my body's build or shape
7. I feel uncomfortable with certain aspects of my physical appearance
8. I feel that most of my friends are more physically attractive than myself
9. I wish I were better looking
10. I am concerned about my ability to attract romantic partners
11. I feel comfortable with my facial attractiveness
12. I am satisfied with my body weight
13. I get nervous when others comment on my appearance
14. I am confident that others see me as physically appealing

APPENDIX M

Body Shame

Please read each of the following statements and indicate your choice next to each statement that best reflects your agreement with the statement.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
0	1	2	3	4

1. When I can't control my weight, I feel like something must be wrong with me.
2. I feel ashamed of myself when I haven't made the effort to look my best.
3. I feel like I must be a bad person when I don't look as good as I could.
4. I would be ashamed for people to know what I really weigh.
5. I never worry that something is wrong with me when I am not exercising as much as I should.
6. When I'm not exercising enough, I question whether I am a good enough person.
7. Even when I can't control my weight, I think I'm an okay person.
8. When I'm not the size I think I should be, I feel ashamed.

APPENDIX N

Self-Esteem

Below is a list of statements dealing with your general feelings about yourself. Please indicate the degree to which you agree or disagree with each statement by circling your choice using the scale provided.

	Strongly Agree	**Agree**	**Disagree**	**Strongly Disagree**
1. On the whole, I am satisfied with myself.	SA	A	D	SD
2. At times, I think I am no good at all.	SA	A	D	SD
3. I feel that I have a number of good qualities.	SA	A	D	SD
4. I am able to do things as well as most other people.	SA	A	D	SD
5. I feel I do not have much to be proud of.	SA	A	D	SD
6. I certainly feel useless at times.	SA	A	D	SD
7. I feel that I'm a person of worth, at least on an equal plane with others.	SA	A	D	SD
8. I wish I could have more respect for myself.	SA	A	D	SD
9. All in all, I am inclined to feel that I am a failure.	SA	A	D	SD
10. I take a positive attitude toward myself.	SA	A	D	SD